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1947 Illinois HYBRID CORN TESTS

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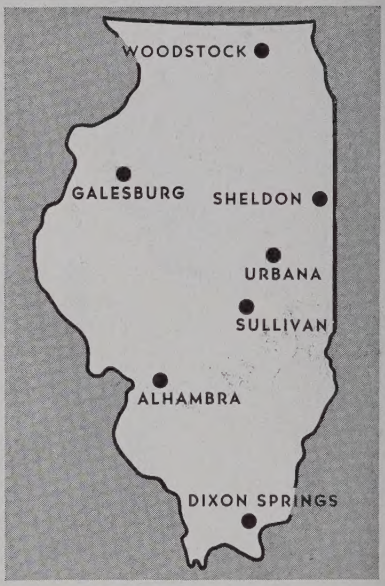

Location of 1947 test fields

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ILLINOIS HYBRID CORN TESTS 1947

J. F. Rundquist, G. H. Dungan, J. H. Bigger, A. L. Lang, Benjamin Koehler, and R. W. Jugenheimer[1]

ADVERSE WEATHER which delayed planting, summer drouth, extreme heat, and in certain areas unusually severe stalk and root rot damage reduced the 1947 yield of corn in Illinois to an average of 39.5 bushels an acre. This yield is 17.5 bushels under the 1946 record high and 6.8 bushels below the 1936-1945 average.[2] It is the lowest since the pre-hybrid year 1936, when it was 23.5 bushels an acre.

PLAN OF THE TESTS

Number of hybrids and their sources. Two hundred ninety-five hybrids were grown on six regular test fields. Six single-cross and three double-cross hybrids were grown on two special test fields which differed in productivity. Fifty-two companies and individuals and the Illinois Station furnished seed for the tests (see pages 554-555).

Seventy-two hybrids were grown on each of the fields except at the Dixon Springs Experiment Station, where 60 entries were planted on the bottomland field and 15 entries on the upland field (Table 1, page 526).

A representative of the Illinois Station took almost all the seed for planting the test fields directly from the warehouses of the producers entering the corn. A few producers delivered small quantities to the Station. Seed of Illinois and U. S. hybrids in commercial production was obtained from the producers of these hybrids and also from the Illinois Crop Improvement Association.

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[2] Estimates for the average yield for the state were furnished by the Illinois Cooperative Crop Reporting Service, Illinois State Department of Agriculture cooperating with the U. S. Department of Agriculture.

Table 1. — GENERAL INFORMATION: Illinois Cooperative Hybrid Corn Tests, 1947

Field	County and location in state	Number of entries	Date planted	Date harvested	Average acre-yield		Average moisture in grain	Average erect plants
					Total	Sound		
					bu.	*bu.*	*perct.*	*perct.*
Woodstock	McHenry (N)	81	May 31	Nov. 4	42.4	41.5	28.4	81.6
Galesburg	Knox (WNC)	81	May 24	Nov. 10, 11	73.0	71.6	22.3	63.1
Sheldon	Iroquois (ENC)	81	June 5	Nov. 12	71.1	70.2	24.6	82.8
Sullivan	Moultrie (SC)	81	May 24	Oct. 31	63.8	62.4	20.6	97.5
Alhambra	Madison (S)	81	June 11	Dec. 11, 12	48.5	47.4	23.7	55.3
Robbs (Dixon Sp.)								
Bottomland	Pope (Ex.S)	60	June 16	Nov. 24, 25	41.7	40.9	26.5	80.4
Upland	Pope (Ex.S)	15	May 28	Nov. 25	34.0	33.5	21.6	78.7

COOPERATORS: EARL HUGHES, *McHenry county*; EARL and WEBSTER GEHRING, *Knox county*; JOHN B. RICE, *Iroquois county*; R. B. VANDEVEER, Farm Manager, Illinois Masonic Home Farm, *Moultrie county*. The Alhambra field in Madison county is managed by the Illinois Station. The Pope county fields at Robbs are parts of the Dixon Springs Experiment Station of which R. J. WEBB is superintendent and J. M. LEWIS is assistant superintendent.

Most of the hybrids selected for testing are extensively grown in the state. Some experimental hybrids were included because they had shown promise for commercial production in preliminary tests. A few hybrids were put in the test mainly to meet the field-performance requirement for certification.

Open-pedigree hybrids from commercial seed producers were entered in the 1947 test. The name of the producer of each lot of open-pedigree hybrid seed is included in the tables.

Soil characteristics of fields. The test fields were medium to high in productivity, and each represents a soil type common to the region where it is located. Each field was selected carefully for uniformity in soil type, productivity, and drainage. The Alhambra field contained a number of "slick spots" and was the most variable in productivity.

In 1947 the northern Illinois test was moved to McHenry county. The other tests were conducted on the same farms as in 1946. The approximate locations of the test fields are shown on the map on the inside front cover. General information on soil characteristics and soil management is given in Table 2.

Field-plot design. A 9 x 9 randomized, lattice-square field-plot design with 5 replications was used on the Woodstock, Galesburg, Sheldon, Sullivan, and Alhambra fields. Controlled, randomized block designs with 6 replications were used on the Dixon Springs bottomland field and 5 on the upland field.

Method of planting. All test fields were planted by hand

Table 2. — TESTING FIELDS: Soil Characteristics and Management Practices

Soil type	Lime requirement	Available phosphorus	Available potassium	Previous crops and soil management
	tons			
NORTHERN: Woodstock				
Proctor silt loam, flat phase	1	Medium	Low to medium	Oats 1944; alfalfa 1945-1946; 3 tons lime and 240 pounds 3-12-12 1944; 500 pounds rock phosphate 1942.
WEST NORTH-CENTRAL: Galesburg				
Muscatine silt loam	3	Medium	Very high	Corn 1944; oats 1945; red clover hog pasture 1946; lime and rock phosphate have been applied.
EAST NORTH-CENTRAL: Sheldon				
Drummer clay loam	0	High	Very high	Corn 1942; oats 1943; alfalfa 1944-1946; 2 tons lime 1943; ½ ton rock phosphate 1938; 125 pounds potash 1946.
SOUTH-CENTRAL: Sullivan				
Flanagan silt loam	2	Medium	High	Alfalfa 1941-1943; corn 1944; alfalfa-timothy pasture 1945-1946; 2 tons lime 1946.
SOUTHERN: Alhambra				
Putnam silt loam	0	High	High	Wheat 1941; corn 1942; oats 1943; soybeans 1944; wheat 1945; red clover 1946; 500 pounds potash broadcast 1947 before planting.
EXTREME SOUTHERN: Robbs (Dixon Springs)				
Upland field: Ava silt loam	trace	Very low	High	Timothy-sweet clover sod past 15 years.
Bottomland field: Bonnie silt loam	1	Very low	Very high	Corn 1944; soybeans 1945; corn 1946; no soil treatment.

R. S. SMITH, Chief in Soil Physics and Soil Survey, and HERMAN WASCHER, Associate Chief in Soil Survey, have approved the soil-type designations, uniformity, and physical characteristics of the above fields.

on land prepared in the regular way for corn. Each plot consisted of 2 rows 10 hills long, except at Alhambra where the plots were only 9 hills long. Three kernels were dropped in each hill except on the fields at Dixon Springs, where only 2 kernels were planted.

Data from all plots were included in the results. The only correction for imperfect stand was the following adjustment for missing hills:

$$\text{Ear weight in field} \times \left(1 + \frac{\text{missing hills}}{\text{hills present}} \times .6\right) = \text{adjusted ear weight.}$$

WEATHER CONDITIONS

In general, the 1947 planting season was another extremely late and discouraging one thruout Illinois. The cool spring was so wet that lowlands and low spots in fields were repeatedly flooded. Stands were uneven and, since wet fields prevented timely cultivation, were more weedy than usual.

Wet weather made the planting of test fields later than usual. All fields except the Sheldon field were planted in good seedbeds which had ample moisture and were planted under conditions favorable for growth. The test area on the Sheldon field was planted five days after the rest of the field. A heavy rain which fell at sometime during the five-day period made the originally excellent seedbed very compact.

Good stands were obtained on the Woodstock, Galesburg, Sullivan, and Dixon Springs bottomland fields. Stands were variable on the Sheldon, Alhambra, and Dixon Springs upland fields.

During June corn made good growth despite the cool, wet weather. Corn suffered during late July and August from the excessive heat and drouth. Late-planted corn suffered, particularly when its early growth was extremely rapid. Heat caused stunting and firing; this condition was more general in the southern half of the state and the damage most serious there.

Serious fall damage from frost had threatened the late-planted Illinois corn crop since planting time. The fall season, however, was unusually warm, killing frosts generally holding off until early November. The exception was the extreme northern part of the state, where a killing frost occurred during the last week of September. The Woodstock field was in this area but the damage was slight. Clear, warm weather during September and October hastened drying thruout the state. Practically all the corn matured without serious damage and the expected soft corn drying, handling, and storage problems did not materialize.

INSECT PESTS

European corn borer. In northern Illinois in 1947, corn losses from European corn borer, *Pyrausta nubilalis* (Hbn.), were material. Hybrid test fields at Woodstock and Sheldon were in this

area. Records of stalk breakage in these fields at harvest time are shown in Table 5 (page 536) and Table 10 (page 543).

The percentage of plants broken below the ear because of borer attack and the average breakage for the fields show that the attack varied in intensity at the two fields. At Woodstock, plants broken below the ear ranged from less than one percent to over 23 percent; the average was 8.4 percent. The difference necessary for significance in hybrids is 8 percent (Table 5). Many hybrids appear to be very similar in their response to borer attack. A three-year average for 19 hybrids shows that 2.8 to 9.8 percent of the plants were broken below the ear (Table 5). The difference between hybrids in this three-year average is not significant.

The percentage of plants broken below the ear at Sheldon range from less than 1 percent to 10.9 percent. In this field, having little breakage, differences between hybrids in the test is not significant. A three-year average of 26 entries shows that the percentage of plants broken below the ear ranged from 14.6 to 25.5. The average for all entries was 19.7 percent. None is significantly better than any other.

Southern corn rootworm. The hybrid test field at Galesburg was attacked by corn rootworms, especially southern corn rootworm, *Diabrotica duodecimpunctata* (F.). The attack damaged root systems and caused lodging, which was greatly increased by a windstorm. Forty-five of the hybrids in the field showed better than average resistance to lodging. Total lodging, however, ranged widely — from 2.2 to 74.3 percent, the average being 33.6 percent (Table 8, page 540). Because the windstorm caused a big difference between portions of the field, a difference of 33.6 percent is necessary for significance (Table 8). Figures for lodging are available for the years 1943 and 1947; average figures for 22 hybrids grown on this field during those years are given in Table 7 (page 539). Differences between hybrids included in these averages are not significant.

DISEASE DAMAGE[1]

Stalk rot diseases. From surveys in 37 scattered counties, direct damage from stalk rot was estimated at 5 percent. In some fields the stalks were badly broken, the breakage resulting in indirect losses since the pickers did not get all the ears. The amount of damage varied a good deal from place to place. Of the stalks examined, 33 percent were rotted by *Diplodia zeae* and 25 percent by *Gibberella zeae*. In northern Illinois, Gibberella was more prevalent than Diplodia. In southern Illinois, 1.4 percent of the stalks were damaged by charcoal rot. *Fusarium moniliforme, Nigrospora oryzae,* and other organisms also caused a moderate amount of stalk rot.

Tho Diplodia has usually been the most serious cause of corn stalk rot in Illinois, Gibberella was the most important cause in 1946 and of considerable importance in 1947. Some inbreds that are resistant to Diplodia are not resistant to Gibberella and vice versa.

Root rot. Wet soil in the spring and compacted, poorly aerated soil during the summer were very favorable to root rot organisms. Roots were brown and plants were easily pulled up in many fields. However, a specific estimate on the amount of damage can not be made.

Smut. Loss from smut was estimated at only 0.5 percent. Damage from this disease has been moderate since 1940, in which year the loss was estimated at 4 percent.

Stewart's disease. This disease was observed especially in canning corn in Iroquois and Vermilion counties and in nonresistant garden varieties of sweet corn in central and south-central Illinois. In late summer, leaf symptoms of Stewart's disease were very common on field corn except in the northern third of the state. This infection in field corn apparently caused little direct damage, but it may have increased stalk rot susceptibility.

Ear rots. Corn kernel damage from rot in the various performance fields is given in Table 3. The dry weather of late summer and fall was not conducive to ear rot infection and the percentages are low, altho not so low as in 1946. The least ear rot damage occurred at Sheldon, the most at Alhambra where the most

[1] Estimates of losses are based in part on survey data obtained by G. H. BOEWE of the Illinois State Natural History Survey.

Table 3. — ROT DAMAGE CAUSED BY FUNGI: Average of All Entries on Six Test Fields, 1947

(Figures based on laboratory tests)

Rank[a]	Fungi causing damage	Corn kernels damaged by rot						
		Wood-stock	Gales-burg	Sheldon	Sullivan	Alham-bra	Dixon Springs	
							Bottomland	Upland
		perct.	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*
1	Fusarium moniliforme	.29	1.17	.32	.40	1.24	1.55	1.47
2	Penicillium spp.	.51	.24	.09	.13	.64	.06	.05
3	Diplodia zeae	.03	.07	.54	.90	.02	0	0
4	Aspergillus spp.	.92	.03	0	.13	.08	.01	.01
5	Nigrospora oryzae	.09	.15	.09	.04	.20	.02	.01
6	Rhizopus and Mucor	.07	.08	.03	.13	.08	.10	.04
7	Alternaria spp.	.03	.09	.04	.12	.08	.01	0
8	Gibberella zeae	0	0	.10	.01	.02	0	.03
	Others	.07	.19	.06	.15	.12	.11	.02
	Total	2.01	2.02	1.27	2.01	2.48	1.86	1.63

[a] Based on total damage on all fields.

lodging also occurred. In the last two years *Fusarium moniliforme* was the chief cause of kernel damage by rot. Penicillium jumped up to second place in 1947. At Dixon Springs Diplodia was not even found. Ear rot losses were high in 1941 and since then we have had more or less dry fall weather and low rot damage.

MEASURING PERFORMANCE

The entries in the 1947 test are listed in the tables in the order of their total yields. Two or more entries having the same total yield are given the same rating, but the one having the higher yield of sound corn is placed first. Those having the same total yield and sound yield are placed in order by percentage of erect plants.

Erect plants. The percentage of erect plants in each plot of each entry on each field was estimated at the time of harvest. The ratings for erect plants show how the percentage of erect plants for each hybrid compared with the percentage of erect plants on the field as a whole. (Each rating is obtained by dividing the percentage of erect plants for that hybrid by the percentage of erect plants on the field as a whole and multiplying by 100.)

Lodging may have been due to rootworm damage, weak or rotted roots, corn borer damage, stalk rots, or weak stalks. Stalks broken above the ear were not considered lodged.

Yield of grain. To determine shelling percentage, all the

ears from one replicate of each entry were shelled. At Dixon Springs, however, because it was not practicable to shell all the ears in a replication, the shelling percentage of all entries was assumed to be 80 percent. A sample of shelled corn was taken from the Dixon Springs plots by hand-shelling 6 ears of each entry in one replication.

From the shelled corn one sample was taken to determine the percentage of moisture at harvest[1] and to determine the percentage of damaged kernels. The percentage of damaged corn was determined according to the federal grain standards.

The total acre-yield was calculated as shelled corn containing 15.5 percent moisture, the upper limit allowable in No. 2 corn. The total yield thus obtained was adjusted according to the procedure outlined by Cochran for randomized lattice-square designs.[2] The total yield of sound corn was computed by deducting the amount of damaged corn from the total yield.

Each hybrid's rating for sound yield, expressed in percentage, is simply the ratio between the bushels of sound corn produced by the hybrid and the average number of bushels of sound corn produced by all the entries on the field.

Height of ear. Notes on comparative height of ear were taken at harvest time. Each plot of each entry was placed in one of the five following categories: *low*, *mid-low* (midway between low and medium), *medium*, *mid-high* (midway between medium and high), and *high*. Beginning with *low* and continuing progressively to *high*, these terms were assigned numerical values from 1 to 5 to permit the averaging of the plots.

Significance of yield differences. Too much confidence must not be placed in the particular ranking of a hybrid in the following tables, for chance has played a part in determining its position. Unaccountable variability in the soil and conditions on the field will cause differences in yield that are not inherent in the hybrids themselves.

The part played by chance in the 1947 tests has been calculated for total yield by the mathematical procedure known as "analysis

[1] All moisture determinations were made with a Steinlite moisture tester.

[2] Cochran, W. G. "Some Additional Lattice-Square Designs." *Iowa Agr. Exp. Sta. Res. Bul. 318.* May, 1943.

of variance." At the bottom of each table is stated the approximate difference which there must be between any two entries in order for them to show a true inherent difference. Unless two hybrids differ by at least this amount, there is no assurance that one hybrid is inherently higher yielding than the other.

RESULTS OF TESTS

Detailed results of the tests on six regular test fields and the two special soil-adaptation fields are given in Tables 4 to 14 on the following pages. See also Table 3 on page 531 on ear-rot damage.

Readers are urged to keep in mind these two things when comparing the performance of hybrids on any one field:

1. Small differences in yield do not necessarily indicate the superiority of one hybrid over another. See each table for the amount one hybrid must exceed another before it can be considered the better.

2. The Summary section of each table is the most important part. At least three years' results are necessary to give a reasonably reliable picture of a hybrid's ability to perform under varying seasonal conditions.

Table 4. — NORTHERN ILLINOIS: Kings and Woodstock

Rank	Entry	Acre-yield		Damaged corn in shelled sample[a]	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound[a]				Erect plants	Sound yield[a]	
	SUMMARY: Kings 1945, 1946; Woodstock 1947								
		bu.	*bu.*	*percl.*	*percl.*	*percl.*	*percl.*	*percl.*	
1	Furr 67A	68.9	68.7	.5	27.7	79	97.4	106.0	Medium
2	Sieben S-450	68.4	68.1	.4	26.0	81	99.9	105.0	Medium
2	Doubet D-1	68.4	67.4	1.8	28.3	86	106.0	104.0	Medium
4	Nichols 5A	68.1	67.6	1.0	30.2	87	107.3	104.2	Medium
5	DeKalb 609	67.9	....	...	28.7	80	98.6	.....	Medium
5	Pioneer 340	67.4	....	...	29.2	83	102.3	.....	Medium
7	Producers 315	66.9	66.3	1.1	28.4	81	99.9	102.0	Medium
7	Frey 425	66.9	....	...	31.4	80	98.6	.....	Medium
9	Ferris F-11	66.8	....	...	26.9	81	99.9	.....	Medium
10	P.A.G.[b] 366A	66.6	66.3	.7	28.9	75	92.5	102.0	Medium
11	Funk G-29	66.4	....	...	30.6	89	109.7	.....	Medium
12	Illinois 1091A	66.2	65.2	1.8	31.2	80	98.6	100.6	Medium
13	Illinois 751	66.1	65.6	.9	30.4	79	97.4	101.3	Medium
14	DeKalb 458	65.9	65.6	.4	28.2	77	94.9	101.3	Medium
15	DeKalb 422	65.7	65.3	.5	28.1	80	98.6	100.7	Medium
16	Hoosier Crost F-138	65.6	65.1	.7	28.4	76	93.7	100.3	Medium
16	DeKalb 615	65.6	64.2	2.7	28.9	82	101.1	99.1	Medium
18	National 114-1	65.3	....	...	30.1	87	107.3	.....	M-high
19	Ward 115A	64.8	....	...	29.2	77	94.9	.....	Medium
20[c]	Illinois 101	63.9	63.7	.3	27.9	86	106.0	98.4	Medium
21[d]	Illinois 269	63.3	....	...	30.1	80	98.6	.....	Medium
22	Producers 320	63.1	62.9	.3	28.9	81	99.9	97.0	Medium
22	Lowe 15	63.1	....	...	29.3	82	101.1	.....	Medium
24	DeKalb 404A	62.7	62.3	.9	27.0	85	104.8	96.2	Medium
25	Crow 360	62.6	....	...	33.5	69	85.1	.....	M-high
26	Morgan M-105	62.5	62.0	.9	30.7	84	103.6	95.7	Medium
27	Moews 14	62.3	....	...	29.1	85	104.8	.....	Medium
28	Crow 514(W)	59.6	....	...	27.3	78	96.2	.....	M-high
	Average of all entries	65.4	64.8[e]	.9	29.1	81.1	.....	.....	.....

A difference of less than 3.8 bushels between total yields of any two entries in this summary is not significant.

	1947 RESULTS: Woodstock								
1	Producers 305	52.3	51.9	.4	22.8	93	114.1	125.1	Medium
2	Pioneer 349	50.7	50.2	.7	24.5	74	90.8	121.0	Medium
3	Furr 67A	50.1	49.6	.8	26.3	84	103.1	119.5	Medium
4	Moews 15	48.3	47.9	.6	25.1	87	106.7	115.4	Medium
5	Hoosier Crost F-138	48.2	47.8	.6	26.7	77	94.5	115.2	Medium
5	Huebsch H-44	48.2	47.8	.6	24.5	63	77.3	115.2	Medium
7	DeKalb 410	48.1	47.5	1.2	23.9	82	100.6	114.4	M-low
8	Sieben S-450	47.6	47.4	.4	23.6	84	103.1	114.2	Medium
9	Furr 66A	47.3	46.2	2.2	25.7	82	100.6	111.3	Medium
9	Crow 407	47.3	44.2	6.5	27.9	80	98.1	106.5	Medium
11	P.A.G. 60	46.5	45.6	2.0	25.0	85	104.3	110.0	Medium
12	Hunt 60(W)	46.2	45.9	.6	24.8	80	98.1	110.6	Medium
12	Pioneer 343	46.2	44.6	3.2	27.0	66	81.0	107.5	M-low
14	Ward 115B	46.0	....	...	27.2	74	90.8	.....	Medium
15	Munson MX	45.9	45.3	1.2	27.3	85	104.3	109.2	M-low
16	Doubet D-1	45.6	43.4	4.5	30.0	93	114.1	104.6	Medium
17	P.A.G. 54	45.4	44.4	2.4	25.9	80	98.1	107.0	Medium
17	P.A.G. 299	45.4	....	...	21.2	90	110.4	.....	M-low
19	Ferris F-11	45.2	....	...	26.3	82	100.6	.....	Medium
20	DeKalb 615	45.1	42.5	5.9	29.1	84	103.1	102.4	Medium
21	DeKalb 458	45.0	44.7	.7	26.3	77	94.5	107.7	Medium
22	Bear OK-20	44.9	44.3	1.3	25.4	73	89.5	106.7	Medium
23	Hoosier Crost FD-3	44.8	44.2	1.4	27.6	73	89.5	105.5	Medium
23	Funk G-29	44.8	....	...	28.5	90	110.4	.....	Medium
25	Illinois 101 (Producers)	44.7	44.4	.4	25.7	85	104.3	107.0	Medium
26	DeKalb 422	44.5	44.4	.4	23.9	82	100.6	107.0	Medium
26	DeKalb 609	44.5	....	...	28.3	88	108.0	.....	Medium

(Table is concluded on next page)

Table 4. — NORTHERN ILLINOIS — concluded

Rank	Entry	Acre-yield		Damaged corn in shelled sample[a]	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound[a]				Erect plants	Sound yield[a]	
	1947 RESULTS: Woodstock — concluded								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
28	Illinois 1091A	44.1	42.3	4.0	30.5	75	92.0	101.9	Medium
29	Crow 360	43.7	....	...	34.9	50	61.3	.....	Medium
30	National 114-1	43.3	....	...	27.5	86	105.5	.....	Medium
31	Ward 115A	43.3	....	...	29.8	76	93.2	.....	Medium
32	Lowe 52	43.2	42.8	.9	25.9	83	101.8	103.1	Medium
33	Hoosier Crost F-140	43.1	42.5	1.2	27.2	86	105.5	102.4	M-low
34	Pioneer 340	43.0	....	...	28.5	78	95.7	.....	Medium
35	Pioneer 344	42.7	42.2	1.2	28.8	85	104.3	101.7	Medium
35	Pioneer 4758	42.7	41.4	2.8	30.0	90	110.4	99.8	Medium
35	Lowe 32	42.7	....	...	27.2	85	104.3	.....	Medium
38	Keystone 44	42.5	....	...	30.1	92	112.9	.....	M-low
39	Pride D-66	42.4	....	...	30.5	88	108.0	.....	Medium
40	Hulting 240	42.2	41.7	1.4	29.5	84	103.1	100.5	Medium
41	Producers 320	42.1	41.9	.4	29.3	83	101.8	101.0	Medium
41	Producers 315	42.1	41.2	2.4	28.4	79	96.9	99.3	Medium
43	Producers 311	42.0	41.0	2.6	25.3	84	103.1	98.8	Medium
44	United U-36	41.9	40.3	4.1	26.5	90	110.4	97.1	Medium
44	Lowe 15	41.9	....	...	28.8	92	112.9	.....	Medium
44	Frey 425	41.9	....	...	31.7	78	95.7	.....	Medium
47	Producers 317	41.8	....	...	27.9	81	99.4	.....	Medium
48	United U-41	41.6	40.9	1.6	31.0	92	112.9	98.5	M-high
49	Hulting 260	41.4	....	...	27.6	75	92.0	.....	Medium
49	Funk G-16A	41.4	41.2	.3	28.5	94	115.3	99.3	Medium
51	Illinois 751	41.1	40.2	1.9	30.1	74	90.8	97.0	Medium
52	P.A.G. 270	41.1	40.6	1.0	30.1	84	103.1	96.4	Medium
52	P.A.G. 52	41.1	40.3	2.0	23.5	88	108.0	97.1	Medium
54	Producers 315	41.0	40.2	2.0	33.1	79	96.9	.....	Medium
54	Nichols 5A	41.0	40.2	2.0	30.0	92	112.9	97.0	Medium
54	DeKalb 404A	41.0	40.0	2.4	26.3	90	110.4	95.9	Medium
54	Illinois 269 (Producers)	41.0	....	...	29.8	77	94.5	.....	Medium
58	Stiegelmeier S-9H	40.7	....	...	33.7	95	116.6	.....	Medium
59	Furr 44A	40.4	38.9	3.9	30.1	69	84.7	93.7	M-low
60	Hoosier Crost FD-4	40.3	39.4	2.2	30.0	87	106.7	94.9	Medium
61	Farmcraft PC-43	39.9	39.6	.4	33.0	51	62.6	95.4	Medium
61	Morgan M-105	39.9	39.2	1.8	28.3	84	103.1	94.4	Medium
63	Huebsch H-55	39.8	38.5	3.5	27.9	86	105.5	92.8	Medium
64	Moews 85	39.6	39.6	.6	27.3	72	88.3	95.4	M-low
65	Ward 110	39.4	38.6	2.2	28.7	90	110.4	93.0	Medium
66	Hoosier Crost F-145	39.1	37.3	4.7	27.3	81	99.4	89.9	Medium
66	Moews 14	39.1	....	...	28.7	89	109.2	.....	Medium
68	Producers 510	38.7	37.3	3.8	32.7	87	106.7	89.9	Medium
69	National 115A	38.3	36.7	3.8	30.8	86	105.5	88.4	Medium
70	Null N-32	38.0	36.8	3.1	30.7	88	108.0	88.7	Medium
71	Furr 33	37.7	36.9	1.8	28.4	79	96.9	88.9	Medium
71	Pioneer 4040	37.7	....	...	35.3	77	94.5	.....	Medium
73	Hoosier Crost F-150	37.6	36.9	1.7	32.5	75	92.0	88.9	Medium
74	Lowe 4(W)	37.3	37.2	.3	22.8	84	103.1	89.6	Medium
75	Ainsworth X-23	36.5	36.2	.9	30.1	82	100.6	87.2	Medium
76	P.A.G. 366A	36.3	35.7	1.6	32.2	70	85.9	86.0	Medium
77	Sieben S-340	36.0	....	...	35.9	78	95.7	.....	Medium
78	Farmcraft FC-40	35.3	33.7	4.6	35.0	87	106.7	81.2	M-low
79	Lowe 34	35.1	34.6	1.5	34.1	77	94.5	83.4	Medium
80	Crow 514(W)	34.4	....	...	27.3	76	93.2	.....	Medium
81	Lowe 6(W)	33.3	32.7	1.6	25.7	73	89.5	78.8	Medium
	Average of all entries	42.4	41.5	2.0	28.4	81.6	.....	.....	.....

A difference of less than 5.0 bushels between total yields of any two entries in 1947 is not significant.

[a] In 1947 accurate determination of the amounts of damage, sound yields, and sound yield scores could not be made for the entries which are blank. [b] Formerly Pfister. [c] In 1945 and 1946 seed was furnished by various growers; in 1947 yield was that of Illinois 101 (Producers). [d] In 1945 and 1946 seed was furnished by various growers; in 1947 yield was that of Illinois 269 (Producers).

Table 5. — CORN BORER DAMAGE: Mt. Morris, Kings, and Woodstock

Rank	Entry	Plants broken below ear[a]	Rank	Entry	Plants broken below ear[a]
SUMMARY: Mt. Morris 1943; Kings 1946; Woodstock 1947					
		perct.			*perct.*
1	Doubet D-1	2.8	11[b]	Producers 320	6.8
2	Moews 14	3.2	12	DeKalb 404A	6.9
3	Funk G-29	3.4	13[c]	Illinois 101	7.3
4	Hoosier Crost F-140	3.9	14	DeKalb 422	8.0
5[b]	Producers 510	4.3	15	DeKalb 615	8.4
6	Nichols 5A	5.0	16	Hoosier Crost F-138	8.9
7	DeKalb 458	5.7	17	Crow 514 (W)	9.3
7	Furr 44A	5.7	18	Pioneer 340	9.6
9	Illinois 751	5.9	19	Crow 360	9.8
10	Lowe 15	6.2		Average of all entries	6.4

There are no significant differences between entries in this summary.

1947 DAMAGE					
		perct.			*perct.*
1	Doubet D-1	.6	42	Illinois 269 (Blackhawk)	7.9
2	United U-41	.7	43	Sieben S-450	8.1
2	National 115A	.7	44	DeKalb 410	8.2
4	Funk G-29	1.4	44	Null N-32	8.2
5	Pioneer 4758	2.0	46	Lowe 32	8.3
6	Lowe 34	2.4	47	Ward 110	8.5
6	Funk G-16A	2.4	47	Pioneer 343	8.5
8	Huebsch H-55	2.6	49	Furr 66A	8.6
8	Keystone 44	2.6	50	Huebsch H-44	9.0
10	Moews 15	2.8			
			50	Producers 311	9.0
11	P.A.G. 299	2.9	52	Bear OK-20	9.2
12	Nichols 5A	3.2	53	Ward 115B	9.4
12	Pioneer 4040	3.2	54	Moews 85	9.7
14	Lowe 15	3.5	55	DeKalb 458	10.2
15	United U-36	3.6	56	P.A.G. 54	10.3
16	Ward 115A	3.7	56	Hoosier Crost F-145	10.3
17	Producers 510	4.1	58	Farmcraft PC-43	10.6
18	Producers 305	4.3	59	Furr 44A	10.9
18	Producers 317	4.3	60	Producers 315	11.1
18	Hoosier Crost FD-4	4.3			
			61	Hoosier Crost F-138	11.6
21	Sieben S-340	4.9	62	Furr 67A	12.0
22	Pioneer 349	5.0	63	Crow 407	12.1
22	Stiegelmeier S-9H	5.0	64	Producers 320	12.5
22	Ainsworth X-23	5.0	65	P.A.G. 366A	13.0
22	Moews 14	5.0	66	Farmcraft FC-40	13.1
22	Illinois 1091A	5.0	67	DeKalb 422	13.2
27	National 114-1	5.4	68	Illinois 751	13.5
28	DeKalb 404A	6.0	68	P.A.G. 60	13.5
29	Morgan M-105	6.1	68	Pioneer 340	13.5
30	DeKalb 609	6.3			
			71	Hunt 60 (W)	13.6
30	Ferris F-11	6.3	72	DeKalb 615	13.8
32	Pride D-66	6.7	73	Crow 514 (W)	14.1
33	Hulting 240	6.8	74	Illinois 101 (Blackhawk)	14.6
34	Hoosier Crost F-140	6.9	75	Lowe 4 (W)	16.6
34	P.A.G. 270	6.9	76	Furr 33	16.7
34	Frey 425	6.9	77	Hoosier Crost FD-3	16.9
34	Munson MX	6.9	78	Hulting 260	17.1
38	Lowe 52	7.0	79	Hoosier Crost F-150	18.8
39	P.A.G. 52	7.2	80	Lowe 6 (W)	20.0
40	Producers 315	7.3	81	Crow 360	23.2
41	Pioneer 344	7.6		Average of all entries	8.4

A difference of less than 8.0 in 1947 percentages is not significant.

[a] Includes only plants broken below the ear at point of damage by the borer, *Pyrausta nubilalis* (Hbn.). [b] Prior to 1947 Producers 510 was Producers 1010 and Producers 320 was Producers 1020. Average is for 1943 and 1947. [c] 1947 seed of Illinois 101 is from Blackhawk Cooperative Hybrid Corn Association.

Table 6. — WEST NORTH-CENTRAL ILLINOIS: Galesburg

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	SUMMARY: 1945, 1946, and 1947								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
1	Pioneer 339	87.1	86.4	1.0	21.4	62	104.0	105.8	M-high
2	Pioneer 304	86.7	86.3	.4	25.1	51	85.6	105.6	M-high
3	Doubet D-72	85.8	85.3	.6	22.3	63	105.7	104.4	M-high
4	Kelly K-374	85.1	83.9	1.7	21.4	56	94.0	102.7	M-high
5	Holmes Utility 39	84.7	84.0	.9	24.1	56	94.0	102.8	M-high
6	P.A.G.[a] 5897	84.6	84.4	.3	21.8	59	99.0	103.3	Medium
6	Crow 633	84.6	84.2	.5	22.3	61	102.3	103.0	Medium
8	Holmes Utility 29	84.2	83.6	.7	21.6	60	100.7	102.3	M-high
9	DeKalb 847	83.8	82.5	1.6	21.4	68	114.1	101.0	M-high
10	Morton M-12	83.6	83.0	.9	22.9	65	109.1	101.6	M-high
11	Funk G-169	83.5	82.9	.8	22.3	63	105.7	101.5	M-high
11	Sieben S-440	83.5	82.9	.8	21.2	60	100.7	101.5	Medium
13	Farmcraft FC-47	82.9	82.5	.7	21.6	50	83.9	101.0	Medium
14	DeKalb 800A	82.8	80.2	3.2	23.3	58	97.3	98.2	Medium
15	Null N-54	82.7	81.9	1.2	22.2	59	99.0	100.2	M-high
16[b]	U. S. 13	82.5	81.6	1.1	23.3	65	109.1	99.9	M-high
17	Funk G-37	82.3	81.7	.7	21.1	61	102.3	100.0	M-high
18	DeKalb 816	82.2	81.5	.9	23.0	65	109.1	99.8	M-high
19	DeKalb 628A	82.0	80.8	1.6	22.8	62	104.0	98.9	M-high
20	Moews 550	81.2	80.6	.7	20.8	68	114.1	98.6	Medium
20	National 125	81.2	80.3	1.6	22.9	55	92.3	98.3	M-high
22	Crow 607	81.1	80.4	1.0	23.4	51	85.6	98.4	M-high
22	Ward 120A	81.1	80.3	.9	23.0	51	85.6	98.3	M-high
24	Doubet D-42	80.0	78.7	1.9	22.9	63	105.7	96.3	M-high
25	Lowe 520	78.7	78.3	.6	23.2	63	105.7	95.8	M-high
26	Keystone 42	77.5	77.1	.4	21.9	57	95.6	94.4	M-high
27	Producers 311	77.1	76.5	.8	20.8	59	99.0	93.6	Medium
28	Morgan M-546	76.9	75.8	1.4	23.0	58	97.3	92.8	M-high
	Average of all entries	82.5	81.7	1.0	22.4	59.6	....	....	.....

A difference of less than 4.3 bushels between total yields of any two entries in this summary is not significant.

	1947 RESULTS								
1	Pioneer 313B	92.7	90.0	2.9	23.9	51	80.8	125.7	Medium
2	Schwenk S-24	87.3	85.9	1.5	22.2	62	98.3	120.0	Medium
3	Pioneer 336	86.0	85.1	1.1	21.9	65	103.0	118.8	M-high
4	Stiegelmeier S-201	84.4	80.5	4.5	20.9	66	104.6	112.4	Medium
5	Ward 120A	83.2	81.3	2.0	22.9	43	68.1	113.5	Medium
6	Pioneer 339	82.8	81.6	1.2	20.9	61	96.7	114.0	Medium
7	Stiegelmeier S-301	81.8	78.3	4.3	21.1	87	137.9	109.4	Medium
8	P.A.G. 390	80.9	79.3	2.2	20.1	65	103.0	110.7	Medium
9	Bear OK-50	81.0	80.3	.6	22.2	67	106.1	112.2	Medium
9	Pioneer 304	81.0	80.2	1.0	27.7	47	74.5	112.0	Medium
11	Producers 730	80.7	78.7	2.5	23.6	43	68.1	109.9	Medium
12	Holmes Utility 39	80.3	79.0	1.6	26.0	55	87.2	110.3	Medium
13	Morgan M-600	79.7	77.6	2.8	22.9	81	128.4	108.4	Medium
14	Pioneer 300	79.5	78.1	1.8	23.5	72	114.1	109.1	Medium
14	U. S. 13 (Morton)	79.5	76.8	3.5	23.4	73	115.7	107.3	Medium
14	DeKalb 800A	79.5	74.9	5.9	22.4	49	77.6	104.6	Medium
17	U. S. 13 (Lepper)	79.0	77.8	1.6	24.4	63	99.8	108.7	Medium
17	Kelly K-374	79.0	76.6	3.0	21.9	61	96.7	107.0	Medium
19	Producers 709	78.9	77.8	1.3	23.3	52	82.4	108.7	Medium
20	Lowe 510	78.5	77.6	1.2	21.5	64	101.4	108.4	Medium
21	Doubet D-72	78.2	77.3	1.4	22.1	75	118.8	108.0	Medium
22	Crow 633	77.7	77.0	1.0	23.8	56	88.7	107.5	Medium
23	Kelly K-100	77.6	76.9	.8	21.8	54	85.6	107.4	M-high
24	Hulting 380	77.3	75.5	2.4	22.2	63	99.8	105.4	Medium
25	Ainsworth X-21	76.8	75.8	1.4	23.3	85	134.7	105.9	Medium
25	DeKalb 847	76.8	73.8	3.9	22.6	82	129.9	103.1	Medium
27	Bear OK-40	76.0	74.9	1.5	20.7	60	95.1	104.6	Medium

(Table is concluded on next page)

Table 6. — WEST NORTH-CENTRAL ILLINOIS — concluded

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	1947 RESULTS — concluded								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
28	Bear OK-60	75.9	75.1	1.0	23.8	52	82.4	104.9	Medium
28	Ainsworth X-23	75.9	75.0	1.2	21.2	67	106.1	104.7	Medium
28	Funk G-169[a]	75.9	74.4	1.8	22.1	66	104.6	103.9	Medium
31	Lowe 24	75.7	74.8	1.2	21.3	66	104.6	104.5	Medium
31	Sieben S-440	75.7	74.4	1.7	20.8	69	109.4	103.9	Medium
33	Illinois 972-1 (Pringle)	75.4	74.1	1.7	26.2	36	57.0	103.5	M-high
34	Illinois 21 (Burrus)	75.3	74.0	1.8	21.3	66	104.6	103.4	Medium
35	Producers 940	75.2	73.4	2.2	21.2	83	131.5	102.5	Medium
36	National 125-1	75.0	71.8	4.3	21.9	57	90.3	100.3	Medium
37	Null N-54	74.5	72.3	3.0	22.2	71	112.5	101.0	Medium
37	DeKalb 817A	74.5	71.7	3.7	22.0	60	95.1	100.1	Medium
39	Holmes Utility 29	74.3	72.9	1.7	22.5	55	87.2	101.8	Medium
40	Hulting 366	73.9	73.2	.9	22.6	70	110.9	102.2	Medium
41	United U-65	73.4	71.0	3.4	21.9	54	85.6	99.2	Medium
42	Doubet D-42	73.1	72.0	1.5	21.4	74	117.3	100.6	Medium
43	Moews 520	72.7	72.0	.9	22.2	84	133.1	100.6	Medium
44	Munson M-15	72.4	69.8	3.7	20.8	60	95.1	97.5	Medium
45	Lowe 514	72.3	71.0	1.7	21.0	53	84.0	99.2	Medium
46	DeKalb 816	72.1	70.8	1.8	21.7	70	110.9	98.9	Medium
47	P.A.G. 5897	72.0	71.5	.8	22.0	68	107.8	99.9	Medium
48	Morton M-380	71.9	71.3	.8	22.2	80	126.8	99.6	Medium
49	Morton M-12	71.8	70.7	1.7	22.9	71	112.5	98.7	Medium
49	Huey H-23	71.8	70.4	2.0	22.6	56	88.7	98.3	M-high
51	DeKalb 628A	71.3	69.2	2.8	21.8	64	101.4	96.6	M-high
52	Munson M-19	70.8	67.5	5.1	22.0	65	103.0	94.3	Medium
53	Producers 315	70.7	70.2	.6	20.3	74	117.3	98.0	Medium
54	Lowe 523	70.6	70.0	1.2	24.4	43	68.1	97.8	Medium
54	Hulting 101	70.6	69.5	1.8	21.1	54	85.6	97.1	Medium
56	Morgan M-546	70.3	67.8	3.4	24.9	53	84.0	94.7	M-high
57	Furr 67	70.1	69.2	1.3	20.7	48	76.1	96.6	M-low
57	Stewart S-8	70.1	68.7	2.0	24.8	41	65.0	95.9	M-high
59	Hoosier Crost 668	69.3	65.5	5.5	22.0	40	63.4	91.5	Medium
60	Funk G-37	69.1	67.9	1.7	21.4	58	91.9	94.8	Medium
61	Moews 550	68.5	67.2	1.6	20.3	82	130.0	93.8	Medium
62	Crow 607	68.1	66.6	2.3	24.3	45	71.3	93.0	Medium
63	U. S. 13 (Morgan)	67.1	65.1	3.0	24.4	64	101.4	90.9	Medium
64	P.A.G. 170	66.7	66.1	.9	20.8	80	126.8	90.9	Medium
65	Farmcraft FC-47	66.4	65.3	1.8	22.0	41	65.0	91.2	Medium
66	Ward 115B	66.3	65.4	1.2	20.6	55	87.2	91.3	Medium
66	Hulting 260	66.3	65.2	1.6	22.2	82	130.0	91.1	Medium
68	Ferris F-A1	66.2	66.1	.1	21.6	56	88.7	92.3	Medium
69	Moews 14	65.9	65.6	.6	20.4	45	71.3	91.6	Medium
69	United U-59	65.9	65.0	1.4	27.2	64	101.4	90.8	Medium
71	P.A.G. 392	64.8	64.0	1.1	20.7	70	110.9	89.4	Medium
72	Producers 311	64.1	63.1	1.6	20.4	58	91.9	88.1	Medium
73	Hoosier Crost 746	63.0	62.3	1.3	23.2	69	109.4	87.0	Medium
73	P.A.G. 299	63.0	62.2	1.5	20.4	59	93.5	86.9	Medium
75	Huey H-42	62.8	60.8	3.4	20.4	80	126.8	84.9	M-high
76	Huey H-20	61.1	59.8	2.1	22.8	74	117.3	83.5	Medium
77	Morton M-33	61.0	59.6	2.6	22.8	76	120.4	83.2	Medium
78	Hoosier Crost F-169	58.5	56.5	3.5	22.6	63	99.8	78.9	Medium
79	Keystone 42	58.3	57.9	.6	21.5	60	95.1	80.9	M-high
80	Huey H-50	56.8	56.0	1.2	22.3	84	133.1	78.2	Medium
81	Lowe 520	54.6	54.1	1.2	22.9	75	118.9	75.6	Medium
	Average of all entries	73.0	71.6	2.0	22.3	63.1	....	....	.....

A difference of less than 6.0 bushels between total yields of any two entries in 1947 is not significant.

[a] Formerly Pfister. [b] 1947 yield computed as average of U. S. 13 seed from the following producers: Lepper, Morgan, and Morton.

Table 7. — HYBRID RESISTANCE TO CORN ROOTWORM[a] DAMAGE: Galesburg Summary, 1943 and 1947

Rank	Entry	Plants leaning 30 degrees or more	Plants leaning more than 45 degrees	Resistance rating compared with average
		perct.	*perct.*	
1	Lowe 520	6.7	1.7	243
2	DeKalb 816	8.9	1.6	203
3	DeKalb 800A	8.4	2.0	200
4	Morgan M-546	8.6	2.0	197
5	Doubet D-72	9.2	1.8	194
6	Moews 550	10.0	2.5	165
7[b]	Producers 940	13.8	1.4	149
8	DeKalb 817A	12.8	2.6	138
9	Funk G-37	10.5	5.3	136
10	Illinois 21	13.9	4.2	111
11	DeKalb 628A	15.6	3.9	106
12	Pioneer 339	18.4	2.6	105
13	P.A.G.[c] 5897	14.1	4.8	104
14	Crow 633	16.5	3.7	103
15[d]	National 125	16.0	4.1	102
16	U. S. 13	16.1	6.0	88
17	Farmcraft FC-47	22.8	4.7	77
18	Hoosier Crost 668	18.7	8.4	70
19[e]	Illinois 972	24.2	8.6	60
20	Crow 607	26.5	7.6	59
20	Moews 14	25.1	8.4	59
22[b]	Producers 730	25.8	11.6	41
	Average of all entries	15.6	4.6	100

Differences between hybrids are not significant.

[a] Mostly southern corn rootworm, *Diabrotica duodecimpunctata* (F.). [b] In 1943 entries were Producers 1040 and 1030 respectively. [c] Formerly Pfister. [d] In 1947 entry was National 125-1. [e] In 1947 entry was Illinois 972-1 (Pringle).

Table 8. — HYBRID RESISTANCE TO CORN ROOTWORM[a] DAMAGE:

Galesburg, West North-Central Illinois, 1947

Rank	Entry	Plants leaning 30 degrees or more	Plants leaning more than 45 degrees	Resistance rating compared with average[b]
		perct.	*perct.*	
1	Lowe 520	2.2	0	2700
2	Huey H-42	6.8	0	874
3	Huey H-50	9.5	0	632
4	U. S. 13 (Morgan)	13.5	0	443
5	Stiegelmeier S-301	9.7	3.2	371
6	Morton M-12	17.0	0	349
7	Ainsworth X-21	11.8	2.7	345
8	Lowe 510	18.2	0	326
9	Producers 315	10.2	4.6	306
10	P.A.G. 170	18.4	1.1	288
10	Huey H-20	20.7	0	288
12	Morgan M-600	21.7	0	275
13	Doubet D-72	18.9	1.9	263
14	Doubet D-42	20.8	1.0	261
15	Moews 520	19.0	3.0	238
16	Funk G-169	16.0	5.7	217
17	Null N-54	19.4	4.3	212
18	P.A.G. 392	22.0	3.3	208
19	DeKalb 816	15.5	6.8	205
19	Sieben S-440	18.8	5.1	205
21	Bear OK-40	23.1	3.8	194
21	Hulting 260	30.7	0	194
23	Moews 550	15.7	8.8	179
24	Producers 940	25.8	4.1	175
25	Stiegelmeier S-201	21.8	6.4	172
26	Producers 709	27.8	4.1	165
27	DeKalb 800A	19.6	8.4	163
28	Lowe 24	25.8	5.4	162
29	Bear OK-50	31.2	3.1	159
30	Pioneer 304	20.2	8.7	158
31	Kelly K-100	28.3	5.4	152
32	United U-59	21.2	9.1	151
33	Pioneer 336	23.5	8.7	145
34	Keystone 42	26.0	7.7	143
35	Morgan M-546	26.4	8.2	139
36	Morton M-380	28.2	7.8	136
36	Ainsworth X-23	28.2	7.8	136
38	Lowe 523	30.2	8.5	126
39	Kelly K-374	29.5	9.5	123
40	P.A.G. 299	26.9	11.5	119
41	Furr 67	33.7	10.2	110
42	Morton M-33	30.0	13.8	103
43	Hoosier Crost 746	29.7	14.3	102
43	Lowe 514	30.3	14.1	102
45	Hulting 366	35.3	11.8	101
45	Pioneer 300	42.2	8.3	101
47	Munson M-19	31.6	14.3	99
47	DeKalb 628A	33.0	13.6	99
49	Holmes Utility 29	36.2	12.4	97
49	Farmcraft FC-47	44.2	8.4	97
49	Hulting 101	37.6	11.9	97
52	Munson M-15	36.6	12.9	95
52	DeKalb 817A	40.9	10.9	95
54	Pioneer 339	43.1	10.1	94
55	Huey H-23	38.3	13.1	92
55	U. S. 13 (Morton)	31.5	16.7	92
57	Schwenk S-24	33.0	18.3	85
58	Illinois 21 (Burrus)	37.4	17.2	83
59	Hulting 380	66.7	2.9	82
60	Crow 633	40.2	16.5	81
61	U. S. 13 (Lepper)	35.3	19.6	80
62	National 125-1	41.2	17.6	78
63	DeKalb 847	41.7	17.6	77
64	Funk G-37	35.5	22.4	74
65	P.A.G. 5897	47.9	19.1	69
66	Crow 607	46.5	20.8	67
66	P.A.G. 390	41.8	23.6	67
68	Ward 120A	46.4	22.7	65
69	Pioneer 313B	50.5	29.5	54
69	Producers 311	52.6	28.4	54
71	United U-65	56.7	27.9	53
72	Hoosier Crost F-169	54.8	29.8	52
72	Holmes Utility 39	45.8	34.6	52
74	Ward 115B	70.7	27.3	47
74	Moews 14	57.6	34.8	47
76	Ferris F-A1	62.3	34.9	45
76	Illinois 972-1 (Pringle)	66.7	33.3	45
78	Hoosier Crost 668	67.0	35.0	43
79	Stewart S-8	63.1	38.7	42
80	Bear OK-60	72.8	40.8	38
81	Producers 730	74.3	44.2	37
	Average of all entries	33.6	12.9	100

In Column 1 a difference of less than 33.6 per cent between any two entries is not significant.

[a] Especially southern corn rootworm, *Diabrotica duodecimpunctata* (F.). [b] High rating indicates better standing ability.

Table 9. — EAST NORTH-CENTRAL ILLINOIS: Sheldon

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	SUMMARY: 1945, 1946, and 1947								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
1	Pioneer 313B	91.7	90.7	1.2	25.8	69	95.8	109.0	Medium
2	Pioneer 304	88.0	87.1	1.0	26.8	68	94.4	104.7	Medium
3	Morton M-380	87.9	87.3	.7	24.9	71	98.6	104.9	Medium
3	Frey 644	87.9	87.3	.8	25.0	71	98.6	104.9	M-high
5	Pioneer 332	87.6	87.2	.5	26.5	70	97.2	104.8	M-high
6	Frey 692	86.5	85.3	1.6	25.0	74	102.8	102.5	M-high
7	Pioneer 300	86.0	85.5	.5	24.3	74	102.8	102.8	M-high
8	Keystone 38	85.7	85.4	.4	24.3	76	105.6	102.6	M-high
9	DeKalb 847	85.6	84.7	1.2	23.6	73	101.4	101.8	Medium
9	Producers 730	85.6	84.7	1.2	25.1	72	100.1	101.8	M-high
11	Doubet D-47	85.4	84.8	.7	24.3	76	105.6	101.9	M-high
12	DeKalb 800A	85.3	84.4	1.2	24.7	75	104.2	101.4	Medium
13	Crow 607	84.6	83.5	1.4	24.6	69	95.8	100.4	M-high
14	Kelly K-374	84.3	83.7	.8	23.2	71	98.6	100.6	M-high
15	Funk G-94	84.0	83.5	.6	25.5	75	104.2	100.4	M-high
16[a]	U. S. 13	83.9	82.8	1.4	25.0	71	98.6	99.5	M-high
16	Kelly K-77	83.9	82.4	1.7	23.9	73	101.4	99.0	M-high
18	Producers 940	83.8	82.8	1.3	23.1	77	106.9	99.5	Medium
19	Lowe 520	83.7	83.5	.2	27.1	65	90.3	100.4	M-high
19	Stiegelmeier S-360	83.7	83.2	.5	22.2	50	69.4	100.0	Medium
21	Morton M-33	83.6	82.9	.9	24.7	76	105.6	99.6	M-high
22	DeKalb 628A	83.3	83.0	.4	24.7	72	100.1	99.8	M-high
23	Frey 645	81.9	81.3	.8	24.1	76	105.6	97.7	Medium
24	Farmcraft FC-69	81.8	81.5	.4	25.8	71	98.6	98.0	M-high
25	Crow 607(W)	81.3	81.0	.4	23.7	68	94.4	97.4	M-high
26	Crow 608	80.8	80.1	.9	24.0	75	104.2	96.3	M-high
27	Hoosier Crost 668	80.4	80.1	.4	23.8	70	97.2	96.3	M-high
28	DeKalb 817A	80.0	78.9	1.5	24.8	72	100.1	94.8	Medium
29	National 118	79.6	78.5	1.5	22.5	80	111.1	94.4	Medium
30	Crow 633	77.5	77.3	.3	25.4	74	102.8	92.9	Medium
31	Hoosier Crost F-170	77.2	76.3	1.1	25.2	75	104.2	91.7	Medium
	Average of all entries	84.0	83.2	.9	24.6	71.9	....	....	.....

A difference of less than 4.2 bushels between total yields of any two entries in this summary is not significant.

	1947 RESULTS								
1	Pioneer 304	82.0	81.5	.6	25.8	81	97.8	116.1	Medium
2	Bear OK-50	80.7	78.0	3.2	23.0	83	100.2	111.1	Medium
3	Pioneer 313B	79.6	77.8	2.2	27.4	83	100.2	110.8	Medium
4	U. S. 13 (Morton)	79.1	79.0	.1	25.9	83	100.2	112.7	Medium
5	DeKalb 847	78.5	76.6	2.6	26.8	86	103.9	109.1	Medium
6	Frey 644	78.3	77.8	.6	23.1	84	101.4	110.8	Medium
7	Pioneer 336	77.9	76.6	1.5	21.7	83	100.2	109.1	Medium
8	Schwenk S-66	77.2	76.3	.9	23.7	81	97.8	108.7	Medium
8	Kelly K-77	77.2	75.2	2.5	23.2	82	99.0	107.1	Medium
10	Huey H-50	77.0	76.8	.4	24.7	86	103.9	109.4	Medium
11	Morton M-12	76.5	75.3	1.4	23.9	80	96.6	107.3	Medium
12	Pioneer 332	76.4	75.9	.8	26.6	80	96.6	108.1	M-high
13	Producers 940	76.3	75.4	1.2	23.6	81	97.8	107.4	Medium
14	Illinois 21 (Mountjoy)	76.2	75.9	.2	25.0	73	88.2	108.1	Medium
15	Farmcraft FC-63	76.1	75.1	1.3	22.4	77	93.0	107.0	M-low
15	Appl A-130	76.1	74.0	2.6	24.4	79	95.4	105.4	Medium
17	Ferris F-14	75.2	73.8	1.6	22.9	85	102.7	105.1	Medium
18	Daily DX9	75.0	74.9	.1	24.0	83	100.2	106.5	Medium
18	Ward 115C	75.0	74.8	.2	22.5	85	102.7	106.3	M-low
18	Keystone 38	75.0	74.6	.6	22.9	88	106.3	106.3	Medium
18	Stiegelmeier S-360	75.0	74.4	.7	23.8	77	93.0	106.0	Medium
22	Ainsworth X-13-3	74.9	74.8	.1	26.1	84	101.4	106.5	Medium
22	Bear OK-88T	74.9	73.7	1.5	26.0	83	100.2	105.0	Medium
24	Bear OK-40	74.5	73.5	1.4	25.1	84	101.4	104.7	Medium

(Table is concluded on next page)

Table 9. — EAST NORTH-CENTRAL ILLINOIS — concluded

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	1947 RESULTS — concluded								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
24	Producers 730	74.5	73.0	2.0	25.0	83	100.2	104.0	Medium
26	DeKalb 800A	74.4	72.9	2.2	23.8	81	97.8	103.8	Medium
27	U. S. 13 (Kelly)	73.5	73.3	.3	23.1	76	91.8	104.7	Medium
27	Pioneer 300	73.5	73.2	.4	23.5	88	106.3	104.3	Medium
29	Frey 645	73.3	72.0	1.3	26.6	83	100.2	102.6	Medium
30	Frey 692	73.2	70.8	3.3	27.2	88	106.3	100.8	Medium
31	Moews 523	73.1	72.4	.9	26.1	80	96.6	103.1	Medium
31	Kelly K-374	73.1	71.6	2.0	23.9	77	93.0	102.0	Medium
33	Kelly K-88	72.5	71.9	.9	23.8	83	100.2	102.4	Medium
34	Stiegelmeier S-380	72.4	72.3	.1	24.1	84	101.4	103.0	Medium
34	Illinois 1425	72.4	70.5	2.8	25.8	84	101.4	100.4	Medium
36	Sibley 777	72.0	71.2	1.1	22.3	84	101.4	101.4	Medium
36	U. S. 13 (Pfeifer)	72.0	69.0	4.1	25.7	86	103.9	98.3	Medium
38	Producers 945	71.9	68.8	4.5	24.1	73	88.2	98.0	Medium
39	Ward 120A	71.6	71.2	.7	25.2	87	105.1	101.4	Medium
39	Ainsworth X-14A	71.6	69.9	2.5	30.8	84	101.4	99.6	M-high
39	Crow 607	71.6	69.5	3.1	25.0	84	101.4	99.0	Medium
42	Morton M-380	71.5	71.1	.5	26.1	86	103.9	101.3	Medium
43	Moews 550	71.4	70.5	1.1	21.6	76	91.8	100.4	Medium
44	Illinois 972-1 (Appl)	71.0	70.9	.2	26.7	90	108.7	101.0	Medium
44	Seeber 11A	71.0	67.7	4.6	28.5	81	97.8	96.4	Medium
46	P.A.G. 392	70.6	69.3	1.8	23.0	79	95.4	98.7	Medium
47	Appl A-136	70.3	70.2	.2	23.0	88	106.3	100.0	M-low
48	Doubet D-47	70.2	69.8	.6	25.9	82	99.0	99.4	Medium
49	Powers 149	70.1	69.9	.1	22.7	80	96.6	99.6	M-low
49	Crow 607(W)	70.1	69.6	.5	25.3	86	103.9	99.1	Medium
49	National 118	70.1	68.3	2.5	23.8	87	105.1	97.3	Medium
52	Pioneer 339	69.8	69.5	.6	22.8	83	100.2	99.0	M-low
53	Hoosier Crost 12	69.6	69.4	.1	21.6	89	107.5	98.9	M-low
54	Lowe 555	69.2	66.9	3.4	24.8	72	87.0	95.3	M-low
55	P.A.G. 170	69.0	68.6	.4	22.0	88	106.3	97.7	Medium
55	Hoosier Crost F-169	69.0	67.3	2.6	24.3	81	97.8	95.9	M-low
57	Hoosier Crost F-150	68.5	68.4	.2	22.5	79	95.4	97.4	M-low
58	P.A.G. 164	68.4	65.5	4.2	23.2	86	103.9	93.3	Medium
59	P.A.G. 173	68.1	67.9	.3	29.7	86	103.9	96.7	Medium
60	Huey H-42	67.9	67.1	1.0	25.1	87	105.1	95.6	Medium
61	Moews 520	67.4	67.0	.6	24.5	83	100.2	95.4	Medium
62	Hoosier Crost F-170	67.2	66.4	1.4	26.5	77	93.0	94.6	Medium
63	Farmcraft FC-69	66.6	66.3	.6	26.2	80	96.6	94.4	Medium
64	Funk G-94	66.5	66.3	.6	25.6	84	101.4	94.4	Medium
65	Trisler T-22	66.4	65.8	1.0	25.3	84	101.4	93.7	Medium
66	Lowe 514	66.1	65.8	.8	26.0	86	103.9	93.7	Medium
66	Funk G-211	66.1	65.2	1.2	23.5	87	105.1	92.9	Medium
68	DeKalb 628A	66.0	65.8	.3	26.4	85	102.7	93.7	Medium
69	Hoosier Crost F-145	65.4	65.0	.5	21.9	82	99.0	92.6	M-low
70	DeKalb 817A	65.2	63.7	2.2	25.6	86	103.9	90.7	Medium
71	Producers 311	64.8	64.5	.5	22.4	86	103.9	92.2	M-low
72	Illinois 1428	64.6	64.4	.2	24.4	84	101.4	91.7	Medium
73	Lowe 520	64.4	64.3	.1	24.7	83	100.2	91.7	Medium
74	Crow 633	64.0	63.8	.1	24.4	77	93.0	90.9	Medium
75	Hoosier Crost 668	63.3	62.8	.6	23.7	79	95.4	89.5	Medium
76	Lowe 523	62.5	62.2	.7	26.0	77	93.0	88.6	Medium
77	Lowe 580	62.2	59.6	4.2	24.1	79	95.4	84.9	Medium
78	Morton M-33	61.9	60.6	2.0	26.3	88	106.3	86.3	Medium
79	Appl A-202	61.2	61.1	.2	23.0	83	100.2	87.2	M-low
80	Embro 95	60.2	60.0	.2	22.8	85	102.7	85.5	M-low
81	Crow 608	60.0	59.6	.6	25.5	86	103.9	84.9	Medium
	Average of all entries	71.1	70.2	1.3	24.6	82.8	.....	....	.....

A difference of less than 7.3 bushels between total yields of any two entries in 1947 is not significant.

[a] 1947 yield is computed as average of U. S. 13 from the following producers: Kelly, Morton, and Pfeifer.

Table 10. — CORN BORER DAMAGE: Milford and Sheldon

Rank	Entry	Plants broken below ear[a]	Rank	Entry	Plants broken below ear[a]
SUMMARY: Milford 1944; Sheldon 1945 and 1947					
		perct.			*perct.*
1	Producers 940	14.6	14	DeKalb 628A	19.7
2	Lowe 520	15.2	15	Hoosier Crost 668	20.3
3	Crow 607	15.4	16	DeKalb 847	20.4
4[b]	Illinois 972[2]	15.5	16	Pioneer 332	20.4
5	Frey 644	17.5	18	Producers 730	21.0
6	Morton M-380	18.0	19	DeKalb 800A	21.4
7	Pioneer 300	18.1	20	Pioneer 304	21.7
8	Crow 608	18.4			
9	Crow 607 (W)	18.6	20	Pioneer 336	21.7
10	Stiegelmeier S-360	18.8	22	Kelly K-374	22.6
			23	Frey 645	23.0
10	Illinois 21	18.8	24	Crow 633	23.8
10	Doubet D-47	18.8	25	DeKalb 817A	24.3
13	U. S. 13	18.9	26	Funk G-94	25.5
				Average of all entries	19.7

Differences between entries are not significant.

1947 DAMAGE

1	Hoosier Crost 12	.7	41	Ainsworth X-13-3	4.5
2	Appl A-202	.8	41	Huey H-50	4.5
3	Morton M-33	.9	41	Pioneer 304	4.5
4	P.A.G. 173	1.5	41	Farmcraft PC-63	4.5
4	P.A.G. 392	1.5	45	Bear OK-88T	4.7
6	Funk G-211	1.6	45	Ward 115C	4.7
6	Morton M-380	1.6	47	Ward 120A	4.8
6	Farmcraft FC-69	1.6	48	U. S. 13 (Morton)	4.9
9	Illinois 972-1 (Appl)	2.2	49	Morton M-12	5.0
10	Seeber 11A	2.4	50	Doubet D-47	5.1
11	Appl A-130	2.7	50	Frey 645	5.1
12	Pioneer 332	2.8	52	P.A.G. 170	5.2
13	Producers 311	2.9	52	Lowe 520	5.2
13	Illinois 1425	2.9	52	Hoosier Crost F-145	5.2
13	Crow 608	2.9	55	Funk G-94	5.3
16	Appl A-136	3.0	56	Crow 607	5.6
17	Embro 95	3.1	56	Crow 607 (W)	5.6
18	Hoosier Crost F-170	3.2	58	DeKalb 800A	5.7
18	P.A.G. 164	3.2	58	Lowe 555	5.7
20	Keystone 38	3.3	60	Stiegelmeier S-360	5.9
21	Kelly K-77	3.4	61	Producers 730	6.0
21	Pioneer 300	3.4	62	National 118	6.1
21	U. S. 13 (Pfeifer)	3.4	62	Trisler T-22	6.1
21	Lowe 523	3.4	62	Hoosier Crost F-169	6.1
25	Frey 692	3.5	65	DeKalb 817A	6.3
26	Ferris F-14	3.6	66	Stiegelmeier S-380	6.5
27	Producers 940	3.7	67	Illinois 21 (Mountjoy)	6.6
27	Kelly K-88	3.7	68	Moews 520	6.7
29	Bear OK-40	3.8	69	Sibley 777	6.8
29	Moews 550	3.8	70	Schwenk S-66	7.3
31	Frey 644	4.0	71	Producers 945	7.4
32	Pioneer 339	4.1	72	Ainsworth X-14A	7.5
33	Pioneer 336	4.2	73	Lowe 580	7.9
33	Bear OK-50	4.2	74	U. S. 13 (Kelly)	8.0
33	Lowe 514	4.2	75	Crow 633	8.1
36	Daily DX9	4.3	76	Hoosier Crost F-150	8.2
36	Moews 523	4.3	77	Kelly K-374	8.3
36	Hoosier Crost 668	4.3	78	Illinois 1428	8.5
36	DeKalb 847	4.3	79	Powers 149	8.7
40	DeKalb 628A	4.4	80	Huey H-42	8.9
			81	Pioneer 313B	10.9
				Average of all entries	4.8

Differences between entries are not significant.

[a] Includes only those plants broken below the ear at point of damage by the borer, *Pyrausta nubilalis* (Hbn.). [b] Entry included as Illinois 972-1 (Appl) in 1947, as Illinois 972-2 (Appl) in 1945, and Illinois 972-1 in 1944.

Table 11. — SOUTH-CENTRAL ILLINOIS: Sullivan

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	SUMMARY: 1945, 1946, and 1947								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
1	Doubet D-41	90.1	89.5	.6	21.2	83	91.8	110.1	M-high
2	Bear OK-40	89.4	89.0	.5	19.8	92	101.8	109.5	Medium
3	Producers 1050	88.9	88.5	.6	21.2	87	96.2	108.9	M-high
4[a]	Illinois 21	88.6	87.2	1.7	20.5	93	102.9	107.3	Medium
5	Pioneer 313B	87.8	86.7	1.2	21.9	87	96.2	106.6	Medium
6	Crow 607	86.8	86.1	.9	21.8	83	91.8	105.9	M-high
7	Pioneer 332	86.3	85.6	.9	23.5	92	101.8	105.3	M-high
8	Kelly K-374	86.0	83.9	2.5	19.7	89	98.4	103.2	Medium
9	Morton M-12	85.9	85.2	.8	21.0	91	100.7	104.8	Medium
10	Pioneer 300	85.8	83.9	2.4	21.1	94	104.0	103.2	Medium
11	P.A.G.[b] 164	85.6	84.1	1.9	20.3	95	105.1	103.4	Medium
12[c]	Illinois 201	85.4	84.9	.7	19.9	90	99.6	104.4	Medium
13[d]	Producers 940	84.8	82.1	3.6	20.5	95	105.1	101.0	Medium
14	Farmcraft FC-81	84.7	83.6	1.3	20.7	91	100.7	102.8	Medium
15	Pioneer 336	84.3	83.5	.9	20.7	94	104.0	102.7	Medium
16[e]	U. S. 13	83.9	82.9	1.2	20.5	91	100.7	102.0	Medium
17	DeKalb 816	82.6	81.2	1.6	20.7	91	100.7	99.9	Medium
18	Keystone 38	82.4	81.6	1.0	21.2	92	101.8	100.4	Medium
19	Crow 805	81.0	80.7	.5	21.4	93	102.9	99.3	Medium
19	Ward 120A	81.0	80.4	.8	21.5	92	101.8	98.9	M-high
21	Crow 608	80.9	80.1	1.2	20.6	94	104.0	98.5	Medium
21	National 125-1	80.9	79.0	2.7	20.4	93	102.9	97.2	Medium
23	Kelly K-99	80.5	79.5	1.3	20.6	88	97.3	97.8	Medium
24[f]	Illinois 126	80.0	79.7	.4	20.8	89	98.4	98.0	Medium
25	Hoosier Crost 746	79.6	79.1	.5	21.1	94	104.0	97.3	Medium
26	Morgan M-546	79.0	78.1	1.3	21.4	91	100.7	96.1	M-high
27	P.A.G.[b] 612(W)	78.8	77.9	1.5	23.1	84	92.9	95.8	M-high
28[g]	Illinois 972A-1	77.8	75.6	2.7	21.6	93	102.9	93.0	Medium
29	Pioneer 505(W)	76.8	75.4	2.1	23.4	89	98.4	92.7	M-high
30	Whisnand 917(W)	75.0	74.1	1.1	23.4	90	99.6	91.1	M-high
31	Funk G-80	74.4	73.4	1.4	23.7	89	98.4	90.3	M-high
31	Hoosier Crost 840	74.4	71.5	3.7	21.9	90	99.6	87.9	Medium
33	Ward 120(W)	70.5	70.1	.6	21.7	85	94.0	86.2	M-high
	Average of all entries	82.4	81.3	1.4	21.3	90.4	....	....	.....

A difference of less than 4.1 bushels between total yields of any two entries in this summary is not significant.

	1947 RESULTS								
1	Stiegelmeier S-13	75.1	74.0	1.4	20.0	96	98.5	118.6	Medium
2	Producers 900	74.3	72.9	1.8	18.8	97	99.5	116.8	Medium
3	U. S. 13 (Canterbury)	74.0	72.7	1.8	19.0	96	98.5	116.5	Medium
4	Moews 830	73.6	72.1	2.0	19.2	99	101.5	115.5	Medium
5	Producers 1050	73.0	72.2	1.1	21.0	100	102.6	115.7	Medium
6	Pioneer 313B	70.7	69.9	.9	21.9	89	91.3	112.0	Medium
6	Producers 940	70.7	64.6	8.6	19.4	99	101.5	103.5	M-high
8	Morton M-380	70.6	68.9	2.6	21.1	96	98.5	110.4	Medium
9	Illinois 21 (Stone)	70.4	69.6	1.4	21.7	100	102.6	111.5	Medium
10	National 125	70.3	69.4	1.2	20.1	96	98.5	111.2	Medium
11	Ainsworth X-13-3	70.0	68.3	2.7	20.2	100	102.6	109.4	Medium
12	U. S. 13 (Stone)	69.9	68.7	1.6	19.7	98	100.5	110.1	Medium
13	Illinois 972 (Pfeifer)	69.7	67.9	2.6	21.7	100	102.6	108.8	Medium
14	Trisler T-32	69.6	67.4	2.9	20.4	95	97.4	108.0	Medium
15	DeKalb 816	69.5	68.8	.8	19.4	95	97.4	110.3	Medium
16	Lowe 523	69.4	69.1	.6	19.2	99	101.5	110.7	Medium
16	U. S. 13 (Mountjoy)	69.4	68.7	.8	18.7	98	100.5	110.1	Medium
18	U. S. 13 (Daily)	69.0	67.6	1.8	20.1	96	98.5	108.3	Medium
19	P.A.G. 164	68.5	66.6	2.9	19.3	100	102.6	106.7	Medium
20	Pioneer 336	68.2	67.7	1.0	19.4	99	101.5	108.5	Medium

(Table is concluded on next page)

Table 11. — SOUTH-CENTRAL ILLINOIS — concluded

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	1947 RESULTS — concluded								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
21	P.A.G. 173	68.1	64.0	6.1	20.3	93	95.4	102.6	M-high
22	U. S. 13 (Kelly)	68.0	67.1	1.3	20.6	99	101.5	107.5	Medium
22	Whisnand 905(W)	68.0	67.0	1.4	18.3	97	99.5	107.4	Medium
22	U. S. 13 (Burrus)	68.0	66.2	2.7	19.8	99	101.5	106.1	Medium
25	Doubet D-41	67.9	67.4	.8	20.3	97	99.5	108.0	Medium
25	S.S. 362	67.9	66.1	2.8	20.2	100	102.6	105.9	Medium
27	U. S. 13 (Morton)	67.7	67.6	.3	20.7	100	102.6	108.3	M-high
28	U. S. 13 (Pfeifer)	67.5	63.5	6.1	19.8	100	102.6	101.8	Medium
29	Kelly K-100	67.1	66.0	1.6	19.4	96	98.5	105.8	Medium
30	Illinois 201 (Burrus)	67.0	66.1	1.0	19.5	96	98.5	105.9	Medium
31	Ainsworth X-21	66.7	65.5	1.7	19.3	100	102.6	105.0	Medium
32	Illinois 21 (Daily)	66.5	65.8	1.3	18.0	100	102.6	105.4	Medium
32	S.S. 342	66.5	62.4	6.3	21.2	98	100.5	100.0	Medium
34	Kelly K-374	66.3	64.8	2.4	18.9	94	96.4	103.8	Medium
35	DeKalb 875	65.9	64.7	1.6	23.4	95	97.4	103.7	Medium
36	Embro 36	65.8	62.2	5.4	19.7	99	101.5	99.7	Medium
37	Daily DX9	65.0	64.0	1.6	21.3	98	100.5	102.6	M-high
38	Whisnand 804	64.7	64.5	.4	19.5	98	100.5	103.4	Medium
38	Ward 120A	64.7	63.8	1.7	21.3	96	98.5	102.2	Medium
38	Pointer Brand 87	64.7	63.1	2.4	20.1	97	99.5	101.1	Medium
41	Keystone 38	64.3	63.3	1.4	18.8	98	100.5	101.4	Medium
42	Bear OK-40	63.8	63.4	.7	18.9	98	100.5	101.6	Medium
43	Hoosier Crost 746	63.6	63.3	.4	19.3	100	102.6	101.4	Medium
43	Morton M-12	63.6	63.0	1.2	19.8	97	99.5	101.0	Medium
45	Kelly K-99	63.5	61.3	3.4	20.4	99	101.5	98.2	Medium
46	Powers 149	63.4	62.7	.9	18.6	98	100.5	100.5	Medium
47	Illinois 126 (Daily)	63.1	62.6	.7	20.6	97	99.5	100.3	Medium
47	Trisler T-22	63.1	62.5	1.1	21.3	98	100.5	100.2	Medium
49	P.A.G. 392	63.0	62.4	.9	19.7	99	101.5	100.0	Medium
49	Morgan M-546	63.0	61.3	2.4	20.7	100	102.6	98.2	Medium
51	Farmcraft FC-81	62.6	61.7	1.5	19.2	96	98.5	98.9	Medium
52	Crow 607	62.4	61.6	1.2	19.6	96	98.5	98.7	Medium
53	Canterbury 404	62.2	60.9	2.2	20.8	98	100.5	97.6	M-high
53	National 125-1	62.2	59.5	4.3	19.2	97	99.5	95.4	Medium
55	Pioneer 300	62.0	60.1	3.2	19.5	99	101.5	96.3	M-high
56	Kelly K-88	61.8	61.5	.3	18.7	97	99.5	98.6	Medium
57	United U-50	61.6	60.6	1.5	18.4	100	102.6	97.1	Medium
58	Holmes Utility 29H	60.4	59.9	.8	22.2	99	101.5	96.0	Medium
59	Lowe 555	60.2	59.0	2.0	20.8	96	98.5	94.5	Medium
60	United U-47	59.1	58.6	.7	18.9	98	100.5	93.9	Medium
61	Embro 49	58.8	58.2	1.1	21.7	97	99.5	93.3	M-high
62	Lowe 560	58.4	58.1	.7	21.3	96	98.5	93.1	Medium
62	Pioneer 332	58.4	57.4	1.4	25.1	100	102.6	92.0	Medium
64	Ainsworth X-14A	58.2	56.5	2.7	24.7	98	100.5	90.5	M-high
65	Farmcraft PC-63	57.9	56.9	1.5	18.1	92	94.4	91.2	Medium
65	Keystone 45	57.9	57.0	1.8	23.6	98	100.5	91.3	Medium
67	Ward 120(W)	57.4	56.8	1.3	21.8	90	92.3	91.0	M-high
68	Morton M-33	56.5	55.2	1.9	21.8	99	101.5	88.5	Medium
69	P.A.G. 612(W)	56.4	54.0	4.0	26.8	94	96.4	86.5	Medium
70	DeKalb 898	56.0	55.6	.8	23.8	98	100.5	89.1	Medium
71	P.A.G. 170	55.9	53.7	3.7	22.4	100	102.6	86.0	M-high
72	Crow 805	55.8	55.3	.9	19.8	99	101.5	88.6	Medium
73	Hoosier Crost F-169	55.3	54.4	1.7	20.3	99	101.5	87.2	Medium
74	Hoosier Crost 840	55.1	53.5	3.2	21.5	97	99.5	85.7	Medium
75	Crow 608	54.6	53.4	2.1	19.3	100	102.6	85.6	Medium
76	Lowe 820	53.3	52.3	2.0	25.0	96	98.5	83.8	Medium
77	Funk G-80	53.2	52.4	1.9	23.9	97	99.5	84.0	Medium
78	Hoosier Crost 404(W)	52.8	51.8	1.9	18.4	93	95.4	83.0	Medium
79	Whisnand 917(W)	52.5	52.2	1.0	23.4	100	102.6	83.6	M-high
80	DeKalb 923(W)	51.7	49.7	3.8	25.9	99	101.5	79.6	Medium
81	Pioneer 505(W)	48.1	46.3	3.5	25.4	97	99.5	74.2	Medium
	Average of all entries	63.8	62.4	2.0	20.6	97.5	....	....	.....

A difference of less than 6.4 bushels between total yields of any two entries in 1947 is not significant.

[a] Yield for 1947 is computed as average of Illinois 21 (Daily) and Illinois 21 (Stone). [b] Formerly Pfister. [c] Yield for 1947 was that of Illinois 201 (Burrus). [d] Formerly known as Producers 1040. [e] Yield for 1947 is computed as average of U. S. 13 from the following producers: Burrus, Canterbury, Daily, Kelly, Morton, Mountjoy, Pfeifer, Stone. [f] Yield for 1947 was that of Illinois 126 (Daily). [g] Yield for 1947 was that of Illinois 972A-1 (Pfeifer).

Table 12.—SOUTHERN ILLINOIS: Alhambra

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	SUMMARY: 1944,[a] 1946, and 1947								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
1	Whisnand 917(W)	52.0	50.9	.7	24.8	66	106.4	113.9	M-high
2[b]	Illinois 200	50.1	49.6	1.0	22.7	60	96.8	111.0	Medium
3[c]	U. S. 13	49.7	49.0	1.3	21.4	72	116.1	109.6	Medium
4	Funk G-80	47.7	46.9	1.6	24.2	55	88.7	104.9	Medium
5	Pioneer 332	47.3	47.0	1.5	22.4	64	103.2	105.1	Medium
6	DeKalb 816	46.0	45.5	.7	21.5	70	112.9	101.8	M-low
7	Hoosier Crost 840	45.8	45.2	.9	21.6	45	72.6	101.1	Medium
7	Illinois 784	45.8	45.2	1.3	25.3	59	95.2	101.1	Medium
9	Crow 607	45.3	44.0	3.4	22.9	63	101.6	98.4	Medium
10[d]	Pioneer 313B	44.9	44.5	1.1	22.0	66	106.4	99.6	Medium
11[e]	Illinois 126	44.2	43.8	1.2	21.4	57	91.9	98.0	Medium
12	Pioneer 300	43.0	42.8	.6	20.1	65	104.8	95.7	Medium
13	Lowe 840	41.9	40.9	2.5	24.1	68	109.7	91.5	Medium
14[f]	Hoosier Crost 1005A	39.3	38.8	1.3	24.6	53	85.5	86.8	Medium
15	Hoosier Crost 746	37.3	36.9	.9	22.0	64	103.2	82.6	M-low
	Average of all entries	45.4	44.7	1.3	22.7	62.0	.....	.....	.....

A difference of less than 6.7 bushels between total yields of any two entries in this summary is not significant.

	1947 RESULTS								
1	Illinois 2214(W)	71.0	68.0	4.2	26.6	44	79.4	143.4	Medium
2	Illinois 1459	65.0	63.9	1.7	28.1	67	120.9	134.8	M-high
3	Doubet D-41	64.7	62.7	3.1	26.4	66	119.1	132.3	M-high
4	Whisnand 905(W)	63.9	62.9	1.6	25.5	41	74.0	132.7	Medium
5	S.S. 903(W)	62.1	61.2	1.4	24.4	54	97.5	129.1	M-high
6	U. S. 13 (Haudrich)	61.8	59.3	4.0	22.1	61	110.1	125.1	Medium
7	Keystone 106(W)	61.6	60.1	2.4	26.5	67	120.9	126.8	Medium
8	Whisnand 917(W)	59.3	58.3	1.7	24.1	72	130.0	123.0	M-high
9	Lowe 855(W)	57.5	56.1	2.4	23.2	62	111.9	118.4	M-high
10	Ainsworth X-13-3	56.4	55.2	2.1	22.1	65	117.3	116.4	Medium
11	Bear OK-50A	56.3	55.7	1.0	21.4	67	120.9	117.5	M-low
12	Pointer Brand 87	56.2	55.1	2.0	22.8	46	83.0	116.2	Medium
13	Illinois 200 (Haudrich)	56.1	55.6	.9	23.6	48	86.6	117.3	Medium
14	U. S. 13 (Kelly)	55.9	54.6	2.4	23.6	64	115.5	115.2	Medium
15	P.A.G. 173	55.3	54.8	.9	20.9	47	84.8	115.6	Medium
16	DeKalb 923(W)	55.2	54.7	.9	26.4	58	104.7	115.4	Medium
17	P.A.G. 612(W)	53.8	53.0	1.4	26.5	52	93.9	111.8	M-high
18	Illinois 784 (Haudrich)	53.6	52.9	1.3	28.2	59	106.5	111.6	Medium
19	Pioneer 505(W)	53.5	53.0	1.0	27.3	61	110.1	111.8	M-high
20	Huey H-23	53.4	51.8	3.0	21.2	53	95.7	109.3	Medium
21	DeKalb 875	52.4	51.5	1.7	23.7	60	108.3	108.6	M-low
22	U. S. 13 (Canterbury)	52.3	50.9	2.6	22.1	46	83.0	107.4	M-high
23	Pioneer 302	52.2	51.7	.9	28.5	50	90.2	109.1	Medium
24	Whisnand 804	51.8	50.0	3.4	19.2	47	84.8	105.4	M-low
25	Ward 120A	51.7	50.2	2.9	23.7	48	86.6	105.9	Medium
26	Ainsworth X-14A	51.4	49.8	3.0	25.1	74	133.6	105.1	M-high
27	P.A.G. 617(W)	51.3	50.8	1.0	25.9	65	117.3	107.2	M-high
28	P.A.G. 392	50.8	50.1	1.4	19.7	71	128.2	105.7	Medium
29	Keystone 38	50.7	50.0	1.4	22.2	46	83.0	105.5	Medium
30	Kelly K-99	50.4	49.8	1.1	19.6	37	66.8	105.1	Medium
30	Illinois 1453	50.4	49.4	2.0	30.7	61	110.1	104.2	Medium
32	Bear OK-315(W)	50.3	49.8	.9	23.5	42	75.8	103.8	Medium
33	Doubet D-42	50.0	49.2	1.6	20.9	65	117.3	103.8	Medium
33	Ward 125	50.0	49.1	1.8	22.4	50	90.2	103.6	Medium
35	Hoosier Crost 708(W)	49.9	48.2	3.4	24.7	46	83.0	101.7	M-high
36	Illinois 21 (Haudrich)	49.6	48.5	2.2	21.0	66	119.1	102.3	Medium
37	Keystone 45	49.3	48.6	1.3	24.9	62	111.9	102.5	Medium
38	Pioneer 313B	49.1	48.0	2.3	22.0	50	90.2	101.3	Medium
39	Illinois 972 (Pfeifer)	49.0	46.9	4.2	24.3	40	72.2	98.9	Medium
40	Illinois 200 (Burrus)	48.9	48.3	1.3	23.8	49	88.4	102.0	Medium
41	Bear OK-69	48.6	47.5	2.3	23.2	69	124.5	100.2	Medium
42	Illinois 2216(W)	48.4	47.4	2.1	25.1	55	99.3	100.0	Medium
43	Funk G-80	48.2	46.4	3.8	25.6	66	119.1	97.9	Medium
44	Kelly K-100	48.0	47.4	1.2	20.1	46	83.0	100.0	Medium

(Table is concluded on next page)

Table 12. — SOUTHERN ILLINOIS: Alhambra — concluded

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	1947 RESULTS — concluded								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
45	Pioneer 300	47.9	47.5	.8	22.0	50	90.2	100.2	Medium
45	Huey H-20	47.9	47.3	1.3	22.0	54	97.5	99.8	Medium
47	Kelly K-374	47.7	46.8	1.8	20.5	50	90.2	98.7	Medium
48	Pioneer 332	47.1	46.2	2.0	23.2	34	61.4	97.5	Medium
48	Lowe 820	47.1	45.6	3.2	26.5	62	111.9	96.2	Medium
50	United U-68	47.0	46.5	1.1	23.4	65	117.3	98.1	Medium
51	Embro 36	46.9	45.7	2.6	20.6	62	111.9	96.4	Medium
52	United U-49	46.8	45.6	2.6	23.0	48	86.6	96.2	Medium
52	Illinois 126 (Canterbury)	46.8	45.5	2.7	22.9	32	57.8	96.0	Medium
52	Hoosier Crost FD-8	46.8	45.1	3.7	19.9	51	92.1	95.2	M-low
55	Daily DX-9	46.6	45.1	3.3	22.4	57	102.9	95.2	Medium
56	Appl A-130	46.5	45.7	1.8	23.9	67	120.9	96.4	Medium
57	Hoosier Crost 1010	46.3	45.3	2.2	27.1	64	115.5	95.6	Medium
58	DeKalb 898	46.2	45.8	.9	22.7	62	111.9	96.6	Medium
59	Illinois 126 (Haudrich)	45.7	45.4	.6	21.6	46	83.0	95.6	Medium
60	DeKalb 816	45.5	44.8	1.6	22.5	52	93.9	94.5	M-low
61	Lowe 830	45.3	44.4	2.0	27.4	36	65.0	93.7	Medium
62	Whisnand 834	44.6	42.0	5.7	25.9	44	79.4	88.6	Medium
63	P.A.G. 164	44.2	43.0	2.7	21.5	73	131.8	90.7	Medium
64	Morgan M-546	42.8	41.7	2.5	21.2	59	106.5	88.0	M-low
65	Lowe 523	42.7	41.8	2.1	22.3	44	79.4	88.2	Medium
66	U. S. 13 (Morgan)	40.8	39.9	2.2	23.6	71	128.2	84.2	Medium
67	Lowe 840	40.4	37.9	6.2	27.5	54	97.5	80.0	Medium
68	P.A.G. 170	39.8	39.6	.6	20.6	42	75.8	83.5	M-low
69	Embro 49	39.6	38.3	3.2	23.8	49	88.4	80.8	Medium
70	Hoosier Crost 840	39.5	38.7	1.9	24.0	67	120.9	81.6	M-low
71	Crow 607	38.5	36.6	4.9	25.6	46	83.0	77.2	Medium
72	S.S. 478	38.4	36.9	3.8	24.1	49	88.4	77.8	Medium
73	National 129	37.7	37.5	.6	20.6	48	86.6	79.1	M-low
74	Farmcraft FC-88	36.1	31.7	12.1	24.6	43	77.6	66.9	Medium
75	Hoosier Crost 746	35.8	35.3	1.4	21.7	56	101.1	74.5	M-low
76	Pioneer 510(W)	35.2	34.3	2.6	24.7	66	119.1	72.4	Medium
76	Hoosier Crost 1005A	35.2	34.1	3.0	26.0	62	111.9	71.9	Medium
78	Funk G-90	35.0	33.9	3.1	26.8	71	128.2	71.5	Medium
79	Crow 608	33.2	32.1	3.3	21.2	66	119.1	67.7	Medium
80	Brown K110(W)	30.9	30.3	1.8	27.4	74	133.6	63.9	M-high
81	National 125	27.1	23.4	13.8	23.0	43	77.6	49.4	Medium
	Average of all entries	48.5	47.4	2.5	23.7	55.3	.....	.....	.....

A difference of less than 14.2 bushels between total yields of any two entries in 1947 is not significant.

[a] 1945 data omitted because the crop did not mature. [b] 1947 yield was average of Illinois 200 produced by Burrus and Haudrich. [c] 1947 yield was average of U. S. 13 produced by Canterbury, Haudrich, Kelly, and Morgan. [d] Averaged with Pioneer 313D which appeared in 1944 tests. [e] 1947 yield was average of Illinois 126 produced by Canterbury and Haudrich. [f] Averaged with Hoosier Crost 1005 which appeared in 1944 tests.

Table 13. — EXTREME SOUTHERN ILLINOIS: Dixon Springs Bottomland and Upland

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	SUMMARY: Bottomland 1945, 1946, and 1947								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
1	Whisnand 905(W)	63.9	63.2	1.2	23.9	84	102.9	121.3	M-high
2	Keystone 106(W)	61.6	61.1	.9	23.9	85	104.2	117.3	M-high
3	Whisnand 917(W)	59.5	58.8	1.2	23.3	84	102.9	112.8	M-high
4	P.A.G.[a] 612(W)	58.2	57.7	.8	24.1	82	100.5	110.7	Medium
5	Lowe 855(W)	57.4	56.0	2.8	23.1	77	94.4	107.5	M-high
6	U. S. 13 (Pfeifer)	53.0	52.2	1.4	22.0	91	111.5	100.2	Medium
7	Whisnand 834	51.7	51.3	1.0	24.8	73	89.5	98.5	Medium
8	Hoosier Crost 707(W)	51.6	51.1	1.1	26.0	79	96.8	98.1	Medium
9	Lowe 840	51.0	50.5	1.3	21.5	76	93.1	96.9	Medium
10	Morgan M-546	49.8	49.0	1.5	21.8	79	96.8	94.0	Medium
11	Ward 120A	49.0	48.7	.6	21.2	86	105.4	93.5	Medium
12	Hoosier Crost 840	46.0	44.3	2.9	20.8	86	105.4	85.0	Medium
13	Hoosier Crost 1010	44.3	43.8	1.2	25.0	82	100.5	84.1	Medium
14	National 129	42.8	41.9	1.9	27.5	79	96.8	80.4	Medium
	Average of all entries	52.8	52.1	1.4	23.5	81.6	....	....	.....

A difference of less than 5.7 bushels between total yields of any two entries in this summary is not significant.

	1947 RESULTS: Bottomland								
1	P.A.G. 620(W)	52.7	51.6	2.0	28.1	74	92.0	126.2	M-high
1	Ward 135(W)	52.7	51.3	2.6	33.4	69	85.8	125.4	M-high
3	P.A.G. 612(W)	52.1	51.6	.9	29.5	79	98.2	126.2	Medium
4	Doubet D-41	51.3	50.3	2.0	26.7	85	105.7	123.0	Medium
5	Whisnand 917(W)	51.2	50.9	.6	26.9	80	99.5	124.4	M-high
6	Illinois 784	49.7	48.9	1.6	28.5	69	85.8	119.6	Medium
7	Ward 130	48.8	47.8	2.1	33.6	56	69.6	116.9	M-high
8	Keystone 106(W)	48.2	47.6	1.3	26.7	78	97.0	116.4	M-high
9	Bear OK-315(W)	48.1	48.0	.2	24.3	74	92.0	117.4	Medium
9	Illinois 2216(W)	48.1	47.3	1.6	27.0	90	111.9	115.6	Medium
11	Illinois 1459	47.2	45.8	3.0	34.4	87	108.2	112.0	M-high
11	Lowe 865(W)	47.2	45.3	4.0	25.3	79	98.2	110.8	Medium
13	Hoosier Crost 708(W)	47.0	46.3	1.5	28.2	82	102.0	113.2	Medium
14	S.S. 903(W)	46.5	45.7	1.8	24.0	78	97.0	111.7	M-high
15	Whisnand 905(W)	46.2	45.3	1.9	27.7	79	98.2	110.8	Medium
16	Embro 155(W)	46.1	45.5	1.2	24.6	80	99.5	111.2	Medium
17	Pioneer 505(W)	46.0	45.8	.5	27.4	83	103.2	112.0	Medium
17	United U-6(W)	46.0	45.3	1.6	31.3	81	100.7	110.8	M-high
19	DeKalb 982(W)	45.7	45.4	.7	31.3	93	115.7	111.0	Medium
20	Lowe 855(W)	45.6	43.1	5.4	27.5	75	93.3	105.4	Medium
21	Ward 125	45.4	45.2	.5	23.9	88	109.4	110.5	Medium
21	Ainsworth X-14A	45.4	44.4	2.3	24.3	77	95.8	108.6	Medium
23	Illinois 2214(W)	45.3	44.5	1.7	29.5	82	102.0	108.8	Medium
24	Keystone 45	44.3	44.2	.3	24.8	78	97.0	108.1	Medium
25	Kelly K-88	43.7	43.2	1.2	20.7	73	90.8	105.6	M-low
26	S.S. 901(W)	43.6	40.5	7.2	26.1	72	89.6	99.0	Medium
27	Pioneer 304	43.1	42.9	.4	27.0	85	105.7	104.9	Medium
28	Bear OK-69	43.0	41.9	2.5	27.8	82	102.0	102.4	Medium
29	DeKalb 923(W)	42.4	41.2	2.8	28.2	80	99.5	100.7	Medium
30	P.A.G. 173	42.2	41.5	1.6	22.6	84	104.5	101.5	Medium
31	Embro 49	42.1	41.7	1.0	26.5	81	100.7	101.9	Medium
32	Ward 120A	41.9	41.4	1.2	24.3	86	107.0	101.2	Medium
33	Hoosier Crost 707(W)	41.7	41.2	1.1	28.8	82	102.0	100.7	Medium
34	Bear OK-40A	41.6	39.2	5.8	24.7	84	104.5	95.8	Medium
35	Whisnand 834	40.7	39.9	2.0	29.1	77	95.8	97.6	M-low
36	Kelly K-374	40.4	40.3	.2	24.9	80	99.5	98.5	Medium
36	Lowe 840	40.4	40.2	.5	22.8	81	100.7	98.3	M-low

(Table is concluded on next page)

Table 13. — EXTREME SOUTHERN ILLINOIS — concluded

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Comparative height of ear
		Total	Sound				Erect plants	Sound yield	
	1947 RESULTS: Bottomland — concluded								
		bu.	*bu.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	
36	Lowe 820	40.4	39.7	1.8	23.6	79	98.2	97.1	Medium
39	Illinois 206	39.6	38.8	1.9	20.9	82	102.0	94.9	M-low
40	Pioneer 313B	38.9	38.4	1.4	24.3	79	98.2	93.9	M-low
41	U. S. 13 (Pfeifer)	38.4	37.9	1.2	25.5	85	105.7	92.7	M-low
42	Keystone 38	38.0	37.6	1.1	28.4	86	107.0	91.9	Medium
43	Pioneer 332	37.6	36.2	3.7	24.2	84	104.5	88.5	Medium
44	P.A.G. 164	37.4	37.0	1.1	21.2	83	103.2	90.5	M-low
45	Hoosier Crost 1005A	36.3	35.4	2.6	28.0	92	114.4	86.6	Medium
46	Illinois 246-2	35.9	35.5	1.1	25.0	72	89.6	86.8	M-low
47	Stiegelmeier S-13	35.7	34.3	3.9	22.3	84	104.5	83.9	M-low
48[b]	Illinois 448	35.5	34.9	1.7	30.2	80	99.5	85.3	M-high
49	Funk G-80	35.4	35.2	.6	24.6	82	102.0	86.1	M-low
50	Morgan M-546	35.2	34.6	1.7	25.0	80	99.5	84.6	Medium
51	Doubet D-42	34.8	32.7	5.9	23.0	81	100.7	80.0	M-low
52	Pioneer 300	34.6	34.3	.8	22.1	72	89.6	83.9	M-low
52	Lowe 830	34.6	34.2	1.3	25.1	82	102.0	83.6	Medium
54	S.S. 478	34.4	34.2	.6	26.3	80	99.5	83.6	Medium
55	Hoosier Crost 1010	33.8	33.5	1.0	26.3	90	111.9	81.9	Medium
56	Hoosier Crost 840	33.0	32.9	.4	24.0	83	103.2	80.4	M-low
57	DeKalb 898	32.8	32.5	1.0	29.6	83	103.2	79.5	Medium
58	P.A.G. 170	29.8	29.3	1.8	22.5	84	104.5	71.6	M-low
59	Brown K-110(W)	29.6	28.0	5.4	25.5	77	95.8	68.4	Medium
60	National 129	24.6	24.2	1.6	40.7	84	104.5	59.2	M-low
	Average of all entries	41.7	40.9	1.9	26.5	80.4	....	....	.....
	A difference of less than 6.3 bushels between total yields of any two entries in 1947 bottomland is not significant.								
	1947 RESULTS: Upland								
1	Illinois 2216(W)	38.3	37.8	1.3	19.6	85	108.0	112.8	Medium
2	Ward 135(W)	37.5	37.1	1.2	20.6	55	69.9	110.7	Medium
3	Funk G-711	37.2	36.5	1.9	23.0	71	90.2	109.0	Medium
4	Illinois 1459	36.5	36.3	.6	24.5	81	102.9	108.4	Medium
5	DeKalb 982(W)	36.2	35.3	2.4	20.4	86	109.3	105.4	M-low
5	Whisnand 905(W)	36.2	34.8	3.9	22.8	66	83.9	103.9	Medium
7	Keystone 106(W)	35.5	34.9	1.7	21.6	81	102.9	104.2	M-high
8	Illinois 1233-1	33.4	32.4	3.0	20.2	91	115.6	96.7	M-low
9	Illinois 1445	32.7	32.2	1.4	23.9	85	108.0	96.1	M-low
9	Hoosier Crost 707(W)	32.7	31.9	2.3	20.0	82	104.2	95.2	Medium
11	P.A.G. 612(W)	31.6	31.2	1.3	18.5	75	95.3	93.1	M-low
12	Illinois 2214(W)	31.5	31.2	1.0	20.7	70	88.9	93.1	M-low
13	Lowe 855(W)	30.6	30.4	.8	22.3	77	97.8	90.7	Medium
13	Pioneer 505(W)	30.6	30.3	1.0	24.4	83	105.5	90.4	Medium
15	Brown K-110(W)	30.0	29.8	.8	22.0	92	116.9	89.0	Medium
	Average of all entries	34.0	33.5	1.6	21.6	78.7	....	....	.....
	A difference of less than 5.7 bushels between total yields of any two entries in 1947 upland is not significant.								

[a] Formerly Pfister. [b] Three of the six plots are Illinois 1459.

SOIL ADAPTATION TEST

Hybrids were tested at Urbana for their adaptation to soils differing in fertility level. The same six single-cross and three double-cross hybrids included in 1946 were used again.

Soils. The two areas used for the tests are on the Agronomy south farm and differ in productivity as a result of long-continued use of different cropping systems. In the Southwest rotation a high state of productivity has been maintained by a systematic rotation of corn, oats, clover hay, and wheat with a red-clover catch crop. The South-Central area has been depleted of fertility by a rotation of corn, corn, corn, and soybeans. Both fields have received manure and phosphate. The predominating soil type on both fields is Sidell silt loam.

Season. Wet weather delayed the planting of these fields almost a month. The highly productive field was planted June 10 and the less productive, June 12. Lack of moisture and extreme heat during the middle of the growing season made for lower than average yields on both of these fields.

1947 results. The average yields of all hybrids in the test were lower than in any previous year since 1936. The results demonstrated the ability of certain single- and double-cross hybrids to withstand adverse conditions. Single cross Hy × O7 and double cross Illinois 972-1 were the two highest yielding entries on both fields (Table 14). On the highly productive field, Illinois 972-1 was highest in yield. The three single crosses that include the four inbred lines which are used in the production of Illinois 972-1 were next in order of yield.

On the medium productive field, Hy × O7 was highest in yield followed by Illinois 972-1. In this test all the inbreds making up Illinois 972-1, with the exception of L317, were in the single crosses ranking at or near the top in yield.

On both fertility levels, the yield of early maturing single crosses and early maturing double crosses was near the bottom. Their 1947 performance agrees in this respect with their 1946 performance. The lowest yielding entry on both fields was single cross 5120 × Hy. This hybrid was also the lowest yielding of the nine in 1946.

Table 14. — SOIL ADAPTATION TEST: Central Illinois, Urbana, 1947

Rank	Entry	Total acre-yield	Erect plants	Rating for—	
				Erect plants	Total yield
	HIGHLY PRODUCTIVE SOIL: Mostly Sidell silt loam, slightly rolling phase (S200, Southwest rotation)				
		bu.	*perct.*	*perct.*	*perct.*
1	Illinois 972-1	84.2	87	98	114
2	Hy × O7	83.8	92	103	114
3	Hy × 317	81.6	85	96	111
4	WF9 × Hy	76.7	92	103	104
5	Illinois 246	76.2	80	90	104
6	Illinois 751	68.2	81	91	93
7	WF9 × M-14	66.7	97	109	91
8	WF9 × 38-11	64.6	99	111	88
9	5120 × Hy	59.9	88	99	81
	Average	73.5	89	. .	. .
	A difference of less than 3.5 bushels between total yields of any two of the above entries is not significant.				
	MEDIUM PRODUCTIVE SOIL: Mostly Sidell silt loam, slightly rolling phase (S800, South-Central rotation)				
1	Hy × O7	54.5	76	97	128
2	Illinois 972-1	45.0	67	86	106
3	WF9 × Hy	43.8	93	119	103
4	WF9 × 38-11	42.7	92	118	100
5	Illinois 246	42.5	61	78	100
6	Hy × 317	41.8	76	97	98
7	Illinois 751	40.6	80	103	95
8	WF9 × M14	39.2	76	97	92
9	5120 × Hy	33.0	81	104	77
	Average	42.6	78	. . .	. . .
	A difference of less than 3.7 bushels between total yields of any two of the above entries is not significant.				

Lodging was less severe on the highly productive soil than on the medium productive field. Single crosses were superior to double crosses in standability. Illinois 972-1 was the best of the double crosses and WF9 × Hy, WF9 × 38-11, and Hy × O7 were the best of the single crosses in percentage of erect plants.

SUMMARY

In 1947 two hundred ninety-five hybrids were tested on six fields in Illinois. As in 1946 six single-cross and three double-cross hybrids were grown at Urbana on two fields differing in productivity.

Because of wet weather, planting was late. The planting dates ranged from May 24, when the fields at Galesburg and Sullivan

were planted, to June 16, when corn went in on the bottomland field at Dixon Springs. Stands on the Woodstock, Galesburg, Sullivan, and Dixon Springs bottomland fields were good; they were variable on the Sheldon, Alhambra, and Dixon Springs upland fields. Heat and drouth were severe enough to lower yields in the northern, central, south-central, and southern portions of the state. The weighted average yield of all hybrids in the tests was 56.7 bushels an acre. This is an average of 17.2 bushels an acre, or 43 percent, above the state average yield. But it is also 17 bushels an acre less than the weighted average of all hybrids in the 1942-1946 tests.

The 1947 state average, 39.5 bushels an acre, was the lowest since 1936, a pre-hybrid year. The state average for the last five years was 50.6 bushels an acre, or 28 percent above the 1947 average.

Results of the 1947 hybrid corn tests were briefly as follows:

1. The Galesburg field in west north-central Illinois had the highest average yield in the state, 73 bushels an acre. On the other test fields the average yields per acre were: Sheldon, 71.1 bushels; Sullivan, 63.8 bushels; Alhambra, 48.5 bushels; Woodstock, 42.3 bushels; Dixon Springs (bottomland), 41.7 bushels; and Dixon Springs (upland), 34.0 bushels.

2. The five highest yielding hybrids in the three-year summaries are as follows: **Northern Illinois** — Furr 67A, Sieben S-450, Doubet D-1, Nichols 5A, and DeKalb 609; **West North-Central** — Pioneer 339, Pioneer 304, Doubet D-72, Kelly K-374, and Holmes Utility 39; **East North-Central** — Pioneer 313B, Pioneer 304, Morton M-380, Frey 644, and Pioneer 332; **South Central** — Doubet D-41, Bear OK-40, Producers 1050, Illinois 21, and Pioneer 313B; **Southern** — Whisnand 917(W), Illinois 200, U. S. 13, Funk G-80, and Pioneer 332; and **Extreme Southern** — Whisnand 905(W), Keystone 106(W), Whisnand 917(W), P.A.G. 612(W), and Lowe 855(W).

3. Lodging was most severe on the Alhambra field, where it amounted to 44.6 percent (Table 1). There was least lodging on the South-Central field at Sullivan, where only 2.5 percent of the plants were lodged.

4. Corn borer damage was most severe on the northern Illinois field. Over 8 percent of the plants were broken below the

ear at the point of corn borer injury. Hybrids varied in amount of infestation, but in the three-year average the difference was not significant between the hybrids on any field.

5. Corn on the Galesburg field was injured by the southern corn root worm. Damage to the roots and strong wind caused considerable lodging on this field.

6. Ear rot percentage was low on all the fields. Sheldon had least kernel rot and Alhambra had most. The most prevalent fungus on rot damaged kernels was *Fusarium moniliforme*. *Gibberella zeae* was present in least amount. On the whole, stalk and root rots were the most serious corn diseases in 1947.

7. The average yield of the nine hybrids grown at Urbana on the field having high productivity was 73.5 bushels an acre. On the less productive field, the same hybrids produced an average yield of 42.6 bushels an acre.

8. On the high producing field, Illinois 972-1 was first in yield and Hy × O7 ranked second. On the medium productive field Hy × O7 was first and Illinois 972-1 was second. This 1947 performance, together with that of former years, indicates the capacity of Illinois 972-1 and one of its component single crosses, Hy × O7, to yield well under a wide diversity of climatic and soil conditions.

Of the nine hybrids in this special test, single cross 5120 × Hy, in 1947 as in 1946, gave the smallest yield.

PEDIGREES OF HYBRIDS

Following is a list of open-pedigree hybrids whose performance is shown in this bulletin.

Ill. 21.....(WF9 × 38-11) (Hy × 187-2)
Ill. 101.....(WF9 × M14) (W26 × 187-2)
Ill. 126.....(WF9 × 38-11) (Tr × L317)
Ill. 200.....(WF9 × 38-11) (K4 × L317)
Ill. 201.....(WF9 × 38-11) (187-2 × L317)
Ill. 206.....(WF9 × 38-11) (5120 × L317)
Ill. 246-2..(WF9 × Hy) (Kr-OSF × R57)
Ill. 269.....(W8 × W32) (WF9 × Hy)
Ill. 448.....(38-11 × Kys) (K4 × L317)
Ill. 751.....(A × 90) (WF9 × Hy)
Ill. 784.....(Hy × 5120) (K4 × L317)
Ill. 972.....(WF9 × Hy) (ITE701 × L317)
Ill. 972-1.....(O7 × L317) (WF9 × Hy)
Ill. 1091A.....(WF9 × M14) (Hy × 187-2)
Ill. 1233-1.....(WF9 × 38-11) (940 × R59)
Ill. 1425.....(WF9 × Hy2) (38-11 × R61)
Ill. 1428.....(WF9 × Hy2) (R61 × 5120B)
Ill. 1445.....(K4 × 38-11) (CI.7 × CI.21E)
Ill. 1453.....(K4 × 38-11) (T8 × CI.21E)
Ill. 1459.....(K4 × 38-11) (CI.21E × K201C)
Ill. 2214(W)..(H21 × K64) (Ky27 × R30)
Ill. 2216(W)..(H21 × CI.61) (Ky27 × K64)
U. S. 13.....(Hy × L317) (WF9 × 38-11)

CONTRIBUTORS OF SEED

Ainsworth Hybrids	Ainsworth Seed Co.	Mason City
Appl Hybrids	Appl's Hybrid Seed Co.	St. Joseph
Bear Hybrids	Bear Hybrid Corn Co.	Decatur, Box 628
Brown Hybrid	Theo. D. Brown	Coulterville
Canterbury Hybrids	C. E. Canterbury Seed Co.	Cantrall
Daily Hybrids	Daily's Hybrid Corn Co.	Mattoon
DeKalb Hybrids	DeKalb Agricultural Assn.	DeKalb
Doubet Hybrids	E. W. Doubet	Hanna City
Embro Hybrids	Ed. F. Mangelsdorf & Bro., Inc.	1020 S. 4th St., St. Louis, Mo.
Farmcraft Hybrids	Farmcraft Seed Co.	Oxford, Ind.
Ferris Hybrids	Ferris Hybrids	Princeton
Frey Hybrids	Frey Hybrid Corn Co.	Gilman
Funk Hybrids	Funk Brothers Seed Co.	Bloomington
Furr Hybrids	Furr Hybrids	Genoa
Holmes Hybrids	Holmes Hybrids	Edelstein
Huebsch Hybrids	L. A. Huebsch & Son	Mundelein
Huey Hybrids	Huey Seed Co.	Carthage
Hulting Hybrids	G. E. Hulting & Son	Geneseo
Hunt Hybrid	Chester A. Hunt	Morris
Illinois Hybrids	**Ill. 21** (Burrus Seed Co., Arenzville; Daily's Hybrid Corn Co.; Haudrich Hybrid Corn Co., Belleville; Mountjoy Hybrid Seed Co., Atlanta; P. A. Stone and Son, Pleasant Plains)	
	Ill. 126 (C. E. Canterbury Seed Co.; Daily's Hybrid Corn Co.; Haudrich Hybrid Corn Co., Belleville)	
	Ill. 200 (Burrus Seed Co., Arenzville; Haudrich Hybrid Corn Co., Belleville; Illinois Crop Improvement Assn.,[a] Urbana)	
	Ill. 201 (Burrus Seed Co., Arenzville)	
	Ill. 206, 246-2, 448 (Ill. Agr. Exp. Sta.)	
	Ill. 751 (Ill. Crop Improvement Assn.,[a] Urbana)	
	Ill. 784 (Haudrich Hybrid Corn Co., Belleville)	
	Ill. 972 (Geo. L. Pfeifer, Arcola)	
	Ill. 972-1 (Appl's Hybrid Seed Co.; Ill. Crop Improvement Assn.,[a] Urbana; Robt. C. Pringle, Sparland)	
	Ill. 1091A (Ill. Crop Improvement Assn.,[a] Urbana)	
	Ill. 1233-1, 1425, 1428, 1445, 1453, 1459, 2214(W), 2216(W) (Ill. Agr. Exp. Sta.)	
Kelly Hybrids	Kelly Seed Co.	San Jose

[a] Seed supplied by the Association was obtained from samples of 1946-grown hybrids submitted for the laboratory test for certification.

Lowe Hybrids	Lowe Seed Co.	Aroma Park
Moews Hybrids	Moews Seed Co.	Granville
Morgan Hybrids	Morgan Brothers	Galva
Morton Hybrids	Roy A. Morton & Sons	Bowen
Munson Hybrids	Carl Munson	Galesburg
National Hybrids	National Hybrid Corn Co. of Ill.	Normal
Nichols Hybrids	Nichols Brothers	Hebron
Null Hybrids	Null Seed Farms	Colchester
P. A. G. Hybrids	Pfister Assoc. Growers	El Paso
Pioneer Hybrids	Pioneer Hi-Bred Corn Co. of Ill.	Princeton
Pointer Brand Hybrid	Moore's Seed & Farm Service	Humboldt
Powers Hybrid	Harlin Powers	Brocton
Pride Hybrid	Pride Hybrid Co.	Glen Haven, Wis.
Producers Hybrids	Producers' Crop Imp. Assn.	Piper City
Schwenk Hybrids	W. T. Schwenk & Sons	Edwards
Seeber Hybrids	Seeber Bros.	Champaign
Sibley Hybrids	Sibley Farms Service Corp.	Sibley
Sieben Hybrids	Sieben Hybrids	Geneseo, R. 1
S. S. Hybrids	Coop. Seed & Farm Supply Service, Inc.	Muncie
Stewart Hybrid	Frank S. Stewart	Princeville, R. 1
Stiegelmeier Hybrids	H. L. Stiegelmeier	Normal
Trisler Hybrids	J. L. Trisler	Fairmount
United Hybrids	United Hybrid Growers Assn.	Shenandoah, Ia.
U. S. Hybrids	U. S. 13 (Burrus Hybrids, C. E. Canterbury Seed Co., Daily's Hybrid Corn Co., Haudrich Hybrid Corn Co., Ill. Crop Improvement Assn.,[a] Kelly Seed Co., Dale Lepper, Quincy, Morgan Brothers, Roy A. Morton & Sons, Mountjoy Hybrid Seed Co., Geo. L. Pfeifer, P. A. Stone & Son)	
Ward Hybrids	Montgomery Ward & Co.	619 W. Chicago Ave., Chicago
Whisnand Hybrids	Myron Whisnand	Arcola

[a] Seed supplied by the Association was obtained from samples of 1946-grown hybrids submitted for the laboratory test for certification.

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